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本期主要内容

在出版中国大陆中医院校的特刊之后，本期出版的是美国中医院校的特刊，文章主要来自两个美国中医院校：**American Academy of Health and Wellness** 和 **National University of Health Sciences**，包括这两所院校的博士生毕业论文和教员的论文。

樊莹等人根据 2017 年的数据，计算出当年中国大陆在各级医院从事临床工作的中医师实际人数大约在 29.5-35.4 万人。中医临床科室中人数的前 5 位是综合医院的中医科（占总数 30.40%，中位人数 8.96 万人，下同）、伤科（8.55%，2.52 万人）、针灸科（7%，2.07 万人），妇科（6.23%，1.84 万人）和儿科（4.47%，1.32 万人）。

李王志等人以《黄帝内经》、《难经》365 穴为基础，从针灸临床视角探讨了穴位称呼、取法、体位、和针刺操作过程中的发现。同时强调了气穴在针灸学中的独特地位和技术要求，以及针灸实践与理论研究中气穴概念的深入理解和应用的重要性。

任昭岑通过系统回顾相关古籍文献和现代临床研究，认为针灸神阙穴在临床中显示出显著的治疗潜力，并且具有良好的安全性。然而，尚需更多高质量的临床研究数据来验证其疗效，并进一步探索其作用机制。

王春云简要论述了脾胃与老年糖尿病的病因病机联系，脾胃经典名方治疗老年糖尿病临床进展，对老年糖尿病的研究和防治有一定的参考价值。

胡玲和 巩昌镇概述了新安针灸的历史背景及其学术影响，详细讨论了该学派的针灸理论与方法，通过探讨新安医家的针药一理、针灸并施的治疗方法，展现了其在传统与创新中寻求平衡的努力，为中医针灸的现代化发展提供了有力的理论支撑。

Jian Madsen, Yuhang Qi 观察、对比动筋针法的动态留针法和传统常规针刺法的静态留针，在治疗软伤类疼痛性疾病的临床疗效差异，以期为疼痛类疾病的患者提供一种更有效的治疗方法和方案。

Decheng Chen, Ming Li 介绍了动筋针法的理论渊源和选穴方法，穴位包括阿是穴，经穴，肌腱相关的穴位，敏感点和激痛点。

贾君君等人报道了一例车祸后突眼对症治疗引发高危糖尿病的案例，通过临床实践证明，症证结合，辨证明确，中医治疗就能收获显著效果。为后续类似的临床疾病如糖尿病早期的治疗及预防提供了一定参考价值。

叶明柱等人对日本近代著名针灸家代田文志的生平、学术观点的转变、头部针刺法学术思想以及它对中国头皮针疗法的影响进行了探讨。其“头部针刺法”非常具有特色，对我国方氏头皮针和汤氏头皮针的创立和发展起了极为重要的推动作用。

贾君君等人回顾性分析了贵生无极导引术对轻症病毒性肺炎居家治疗的疗效观察，得出以下结论：以增强自身免疫力，主动健康为主的贵生无极导引术的居家自疗方法，对轻症病毒性肺炎患者的效果确切。

Elang Yoo 探讨了针灸配合刮痧治疗慢性焦虑症并发注意力缺陷多动障碍的疗效。

Mabel Angel 总结了电针治疗肠易激综合征/小肠细菌过度生长症患者症状管理的疗效

Brandi E. Jones 编写了针灸治疗中年妇女盆腔炎致不孕症的病例报告及文献综述。

Breanne Driscoll-Ludwig 探讨了双耳 Theta 波与针灸结合治疗对偏头痛的疗效

Ming Yi, 通过病例报告和叙述性回顾阐述了针灸治疗骨关节炎膝关节疼痛的疗效：

薛扶民概述了薛式医学太极科学机理：高心率、低收缩力，高吸氧量、呼吸频率不变现象的本质是，交感神经没有激活，因而增加内脏血流和氧供

巩昌镇简要介绍了美国中医学院 American Academy of Acupuncture and Oriental Medicine 的历史

主编 贺德广

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中医临床

中国大陆地区执业中医师分科人数概况：基于 2017 年数据

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[摘要] 本研究旨在研究中国大陆临床上实际的各科人数及其总人数。基于 2017 年国家卫生与健康委员会公布的《2016 年我国卫生和计划生育事业发展统计公报》以及相关经济数据，我们计算出在各级医院从事临床工作的中医师实际人数大约在 29.5-35.4 万人。约 8 万 1 千人从事各级医院中医门诊的最主要日常工作；在诊所等处实际从事中医临床工作的中医师则有约 9 万 2 千人，两项合计是约 17 万 3 千人；放宽则为 31.4 万人。这反映了实际在临床上从事中医工作最基本的人数。而年报总计的 48 万 2 千人，可能是包括了一些在中医单位工作的西医师、许多中医师助理，乃至退休人员的重叠计算，行政人员、科研人员、教学人员、进修以及大量的已经获得执照但又没有实际从事中医临床工作的人员、比如大量的攻读学位人员以及等待进入中医工作的人员。按照好大夫网站和我们的实地考察，计算出中医临床各科人数和比例，中医临床科室中人数的前 5 位是综合医院的中医科（占总数 30.40%，中位人数 8.96 万人，下同）、伤科（8.55%，2.52 万人）、针灸科（7%，2.07 万人），妇科（6.23%，1.84 万人）和儿科（4.47%，1.32 万人）。

[关键词] 中国大陆，中医临床，人数，各科

中医药是中华文明的重要组成部分、近几十年在国际上得到广泛传播和应用，据不完全统计，全球有 183 个国家在应用针灸为代表的中医药^[1]，

2 结果

中国以外国家的中医药从业人员可能已经达到 50 多万人^[2]。我们曾发布美国的中医类执业人员（当地正式职业称谓为执照针灸师 **Licensed Acupuncturists**）的年度数据^[3]，2015 年初美国有中医 34,481 人。中华人民共和国

国务院新闻办公室于 2016 年 12 月正式发布了“中国的中医药”白皮书^[5]，提及 2015 年底，中国大陆地区有中医类别执业（助理）医师 45.2 万人。本文旨在以 2017 年为例，探讨中国大陆地区临床上实际拥有中医类执业医师及其分科人数概况、并分析中医药几个发达省份的状况。

1 材料与方法

1.1 咨询中国中医药主管部门

咨询单位包括国家中医药管理局、世界中医药学会联合会、中国针灸学会。

1.2 网上查询

通过检索搜索词：执业中医师、中医师、分科人数、各科人数在各大搜索引擎进行检索。

1.3 医疗平台查询

重点统计全国唯一的全国性网上挂号平台好大夫网站有关中医师总数以及各科人数、以及各科中医师占中医师总数的比例，作为全国执业中医师人数的低限。同时计算出中医师占中医院执业医师总数的比例。人工抽查 10 个医院，与之校对。

1.4 将 2017 年度国家正式发布的执业中医师人数乘以各科人员的比例系数，得到中医各科人员的数字，作为全国执业中医师人数的高限。

1.5 分析北京、上海、江苏、安徽、广东和四川各地几个著名中医机构，并估算中医各科人数，作为对比。

国家中医药管理局、世界中医药学会联合会、中国针灸学会等相关单位告知没有中医各科的具体人数统计。网络查询亦没有全国的中医各科的具体人数统计。通过统计全国唯一的全国性网上挂号平台好大夫网站有关中医师总数以及各科人数、以及各科中医师占中医师总数的比例（见表 1）；算出全国执业中医师总人数低限与高限，然后估算各科人数的低限与高限。就具体医院而言，这个网站医院中医门诊的主力人员数据，与这些医院的中医人员实际总数存在一定差别的。根据我们实地调查的一些医院，比如南京市中医院，好大夫网站提供的参加门诊的中医人数是 194 人，而实际执业中医的人数是 280 人，中医院实际执业中医师人数是好大夫网站提供的门诊中医师的 1.44 倍。经过我们十多位医师在所在医院核实，无住院床位的科室，比如针灸科、眼科、耳鼻喉科（五官科）等的从事门诊的中医人数确实代表了那些科室的实际人数，而有住院床位的科室、中医人员数则不止好大夫网站公布的人数，还应包括住院部的中医师、以及部分担任行政业务、科研以及教学或进修，不从事门诊的中医人数。这些医院的中医总数应该有所加权，我们认为前述低限数字乘以 1.5 倍似应可以大致代表执业中医主力的人数。好大夫网站提供的 2017 年度全国主要医院里的开展门诊的中医人数总量是 53,970 人，加权后这些医院的中医人数则达到 80,955 人（约 8 万 1 千人），这些人员承担了医院中中医临床工作的最主要部分。按照中医当年诊疗病人总人数，除以平均每日每个医生的工作量，得到中医实际从事临床的总人数；减去以上在医院的人数，那么可以得到从事中医诊所的中医人数：91,578 人（约 9 万 2 千人，计算方式见讨论部分）。两项合计，总共 17 万 3 千人，是从事中医门诊中医诊务的主要人数；这作为全国中医人数的低限值。国家 2017 年度发布中医人员的总数是 48.2 万人^[9]，代表了中国的大陆地区（除外了台湾、香港、澳门等地区）中医人员的总数。去除不能独立从事中医临床的助理医师（占 13.59%）^[8]，可以得到 2017 年执业中医医师人数 41.65 万人，这作为全国中医临床上人数的高限值。以低限值和

限值分别乘以各科人员比例，则得到全国各科人员的低限值和高限值。

表 1 2017 年好大夫门诊挂号网站中医各科人数统计、各科人数占总数比例，

以及全国中医各科人数低限、高限及中位数估算

N o.	科 别	人 数	医 院	人/ 医院	占 总 数 （%）	低 限 人 数 （万）	高 限 人 数 （万）	中 位 人 数 （万）
1	针 灸	3,780	885	4.27	7.00	1.21	2.92	2.07
2	推 拿	1,302	268	4.86	2.41	0.42	1.00	0.71
3	伤 骨	4,616	689	6.70	8.55	1.48	3.56	2.52
4	皮 肤	1,523	374	4.07	2.82	0.49	1.18	0.84
5	肛 肠	1,715	397	4.32	3.18	0.55	1.32	0.94
6	普 外	2,031	419	4.85	3.76	0.65	1.57	1.11
7	乳 腺	309	83	3.72	0.57	0.10	0.24	0.17
8	耳 鼻 喉	1,080	314	3.44	2.00	0.35	0.83	0.59
9	眼 科	977	245	3.99	1.81	0.31	0.75	0.9
10	中 医 *	1,6409	2928	5.6	30.40	5.26	12.66	8.96
11	心 内	2,279	315	7.23	4.22	0.73	1.76	1.25

12	消 化	1,735	297	5.84	3.21	0.56	1.34	0.95
13	呼 吸	1,269	233	5.45	2.35	0.41	0.98	0.69
14	肝 胆	792	165	4.8	1.47	0.25	0.61	0.43
15	神 经	1,904	288	6.61	3.53	0.61	1.47	1.04
16	肾 科	1,395	247	5.65	2.58	0.45	1.08	0.76
17	免 疫	730	173	4.22	1.35	0.23	0.56	0.40
18	感 染	77	32	2.41	0.14	0.02	0.06	0.04
19	血 液	416	88	4.73	0.77	0.13	0.32	0.22
20	肿 瘤	1,697	301	5.64	3.14	0.54	1.31	0.92
21	男 科	489	204	2.40	0.91	0.16	0.38	0.27
22	妇 科	3,361	603	5.57	6.23	1.08	2.59	1.84
23	老 年	461	81	5.69	0.85	0.15	0.36	0.25
24	儿 科	2,412	492	4.90	4.47	0.77	1.86	1.32
25	中 西 医 结 合	1,211			2.24	0.39	0.93	0.66
总 数		53,970			100	17.35	41.68	29.48

注：* 中医：综合医院中医科

3 讨论

3.1 关于中医人员数的低限

根据我们的核对，好大夫网站实际上包括了全国西医、中医和中西医结合的三甲医院以及大部分二甲和部分一甲医院门诊医生的信息。笔者认为本文从好大夫网站收集的中医门诊数据反映了中医门诊的主力人员状况（估算中位数 29.48 万人，[低限 17.3、高限 41.65 万人]），这些人员承担了个人诊所、部分门诊部以及医院的中医各科门诊的临床工作。以针灸科数据作为验算，针灸科医生人数占全体中医比例是 7%，中位人数 2.07 万人，与我们实地考察和计算的数据相当[11]。

中医临床科室中人数的前 5 位是综合医院的中医科（占总数 30.40%，中位人数 8.96 万人，下同）、伤科（8.55%，2.52 万人）、针灸科（7%，2.07 万人），妇科（6.23%，1.84 万人）和儿科（4.47%，1.32 万人），在中医医院中、大内科和大外科已经分拆为比较小的科室，各个小的科室人数都比较少，在一万或以下。原本的中医外科的普外、肛肠等科经过演变、手术比较多。在这些医院中、以北京市为例，有些三甲医院针灸科医生日工作量有的达到 100 多人次[12]，而中医平均日工作量是 13 人次[13]，可见忙碌的三级医院以及部分二级医院以外的一级医院和诊所，中医人员可能并不少、但他们的工作量可能比较少。就具体医院而言，好大夫网站医院中医门诊的主力人员数据，与这些医院的中医人员实际总数应该是存在差别的。根据我们实地调查的一些医院，比如南京市中医院，好大夫网站提供的参加门诊的中医人数是 194 人，而实际执业中医的人数是 280 人，换句话说，中医院实际执业中医师人数是好大夫网站提供的门诊中医师的 1.44 倍。经过我们十多位医师在所在医院核实，无（或极少）住院床位的科室，比如针灸科、眼科、耳鼻喉科（五官科）等的从事门诊的中医人数确实代表了那些科室的实际人数，而有住院床位的科室、中医人员数则不止好大夫网站公布的人数，还应包括住院部的中医师、以及担任行政业务、科研以及教学

或进修，不从事门诊的中医人数。这些医院的中医总数应该有所加权，我们估计前述低限数字乘以 1.5 倍似应可以大致代表执业中医主力的人数。好大夫网站提供的 2017 年度全国主要医院里的开展门诊的中医人数总量是 53,970 人，加权后这些医院的中医人数则达到 80,955 人，这些人员承担了中医临床工作的最主要部分。2017 年国家卫生公报公布的 2016 年度中医接受的门诊病人是 9.6 亿人次，其中中医类医院中医接诊 5.8 亿人次(占 59.9%)、其他医疗机构中医类临床科室接诊 2.4 亿人次(占 25.0%)，中医类门诊部及诊所中医接诊 1.4 亿人次(占 15.1%)，各类医院里的中医门诊病人量(占 84.9%)是诊所的 5.57 倍[9]，国内民众看中医主要是到医院就诊。验算一下，如果根据这个好大夫网站反映的中医人数计算而来的数据

（80,955）是基本可靠的，那么、按照各类与中医相关医院里的门诊病人（含部分实际上是西医门诊量）占 9.6 亿中 84.9% 计算，除以 250 天年工作日和中医师人数 80,955，得到中医师每日每人平均工作量是看病人 40.27 人次，这在一些医院来讲是真实的状况；比如有些中医师，每日看诊达到 100 人次[12]。但是，以江苏省中医院为例，有 600 位门诊中医师，2017 年门诊量为 508 万人次[13]，合到每位中医师平均每天看诊 33.87 人次；南京市中医院，有 194 位门诊中医师，同年门诊量为 73 万人次，15.05 人次[14]。所以若以 15 人次为比较合理的平均数，那么 2017 年度这些医院门诊总量（8.2 亿）除以日均 15 人次和 250 个年工作日，就是理论上在上述医院里工作的医师人数，数字是 21.87 万人。因为我们在好大夫网站统计的是中医科室的人员，大约是 8.1 万人，可以作为在医院工作的中医师的下限。而多出来这个的 13.77 万人，可能是西医科室的人员或前述好大夫网站没有全面包括的其他医院的中医师。

3.2 关于中医人员数的高限

国家 2017 年度发布中医人员的总数是 48.2 万人[9]，代表了中国大陆地区（除外了台湾、香港、澳门等地区）中医人员的总数。去除不能独立从事中医临床的助理医师（占

13.59%)[8]，可以得到 2016 年执业中医医师人数 41.65 万人。由于是汇总各省市提供的数据，而各省市实际上对于中医类执业医师的统计的纳入标准是有出入的。比如广东省（实际上大多数省份可能也是这样）[14]，在统计中医执业医师的时候，对于中医机构，是把包括执业西医在内的所有执业医师统计在内的，而在统计诊所的执业医师时，则将执业西医师与执业中医师分开统计的。许多诊所、执业中医师的主力来源于医院退休的（大部分仍留用的）以及现任的中医师，人员名单与医院人员名单有一定（甚至较大）的重叠。从比较实际的考量出发，中医执业医师人数的高限似乎应该至少去掉 15%，即 41.65 万人要除去 6.25 万人，余下 35.4 万人。至于执业中医师人员高限分科状况，医院之外，除了专科诊所，诊所与门诊部的分科是不会有医院那样仔细，从实地考察来看，在中医类诊所中医大内科不再细分，而是在中医内科医师的介绍里介绍各位医生的主要擅长。所以在综合性医院（西医院等）、门诊部和诊所，中医执业的中医师，一般归于中医科或中医内科、针灸科，少数也分出妇科与伤骨科，基本上没有眼科、耳鼻喉科、肛肠科等科室，所以本文以某些医院各科医生比例推测全国中医里各科医生的人数是不够准确的，人员应合并归类，除主要中医医院外，大致应把中医人员归为中医科、中医伤科、针灸科。

3.3 各医院对于科室分类会有不同的定义

以上通过好大夫网站统计的数据中，有的科室的人数实际上也包括了其他科室的一些人员，比如从事针灸的中医师人数统计实际上除了包括了针灸科的中医师人数、也包括了一些医院（尽管是少数）将针灸科与其他科室合并的整个科室的人数，比如针灸康复科、针灸推拿科、针灸与神经科。所以这些科室的人数是存在高估的。

3.4 数据反推也可以了解临床上实际存在的中医医师人数

根据 2017 年发表的《2016 年我国卫生和计划生育事业发展统计公报》[9]，2016 年度，中医类医院、西医院的中医科室以及中医诊所全年看诊 9.6 亿人次（应该是包括了西医门诊病人），以每年 250 个工作日计算，每天合到看诊 3,840,000 人次；如按照北京市每个中医每日看诊 13 人次[13]来计算，全国中医实际从事临床工作的应该是 295,384 人。换个角度，从经济管理的角度来看，如果中医师不依靠国家补助而能自给自足，以工资水平在全国并不靠前的南京市为例，假设每个中医师当前的工资与奖金等全部收入每月目标是 1 万元，而交给医院的其他支出（overhead，比如医院场地、水电、杂费，其他辅助工作人员、行政人员工资等所有费用）也是 1 万元，那么，每个中医师必须每月能够从门诊看诊中获得 2 万元纯收入。为了计算方便、以针灸科作为代表来计算：当年每例次病人治疗的收费是 60-90 元[15]（此处忽略针刺工具等成本），以当年收费的中位数 75 元、每月工作 21.8 天计算，那么针灸师至少每天需要看诊人数是： $(20,000/21.8)/75$ ，得到 12.23 人次（与北京市中医日平均看诊人数基本一致），那么，全国中医实际从事临床工作的应该是 313,982 人（31.4 万人）。而实际上报告的是中医类别执业（助理）医师 48.2 万人[9]。差值 16.6-18.7 万中医师可能从事病房、或其他工作，比如教学、科研、机关，进修等；当然，也不能排除部分来自于统计误差。

综上所述，当年中医师实际人数大约在 29.5-35.4 万人。计算得出的 31.4 万人基本上应该是从事门诊的中医师总人数，而其中 8 万 1 千人主要从事各级医院中医门诊的日常工作。而中医类医院不仅仅看诊中医类病人，也可能看了大量的看西医的病人（从事体检、各种理化检查、开西药、做手术等），另有 13.77 万人。如除去上述 8 万 1 千人和 13.77 万人（共 21.87 万人），则为从事诊所等处工作的中医人员数。若以 31.4 万中医师作为实际总数来算，诊所等处工作的中医人员则为 9.53 万人；以看诊量为 1.4 亿人次[9]计算，得到平均每日看诊量 6.88 人

次，即 6-7 人。如果没有补贴或其他收入途径，这些人员也许有生活困难。从上述经济管理角度计算出的中医师得到适中经济收入每日需要看诊大约 12.23 人次来计算，1.4 亿人次除以 250 天工作日和人均每日看诊 12.23 人次，得到 45,789 位中医师，如果我们降低在诊所等非医院工作中医师的收入水平，假设只有在医院工作的中医师的一半（每月 5 千元，包括缴纳退休金、公积金、各种保险等），那么可以得到 91,578 人。那么，从事中医日常工作的人员就是，80,955 加上 91,578，共 172,533 人。29.5-35.4 万人中的其他人员 12.7-18.1 万人应该是从事西医门诊（比如上述提到的 13.77 万人）或非实际从事临床工作的中医师，除了以上提到的行政、科研、教学、进修，最大的可能性是继续上学、攻读学位，还有获得中医师执照尚没有从事中医工作的人员。

4 结论

根据 2017 年国家卫生与健康委员会公布的《2016 年我国卫生和计划生育事业发展统计公报》以及相关经济数据，我们认为在各级医院实际从事临床工作的中医师大约应为 80,955 人（约 8 万 1 千人），在诊所等处实际从事临床工作的中医师有可能是 91,578 人（约 9 万 2 千人），两项合计是约 17 万 3 千人，这基本反映了实际在临床上从事中医工作的人数。而年报总计的 48 万 2 千人，可能尚包括了一些在中医单位工作的西医师、许多中医师助理、退休人员的重叠计算、行政人员、科研人员、教学人员、进修以及大量的已经获得执照但又没有实际从事中医临床工作的人员、比如大量的攻读学位人员以及等待进入中医工作的人员。

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从临床角度探讨经典著作中的 365 穴

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[摘要] 穴位作为针灸学科核心的基础框架, 对临床医生的取穴、针刺操作乃至疗效都有重要影响。但在针灸学科的源头古籍中并未找到“穴位”一词, 其称呼从古至今经过了多种不同表述的形式。本文以《黄帝内经·素问》、《黄帝内经·灵枢》、《难经》365 穴为基础, 从针灸临床视角探讨关于穴位多种语言称呼的发现方式及其形成过程, 并根据穴位的取法、体位、以及针刺操作过程中的发现提供一个对穴位理解的临床视角。同时强调了气穴在针灸学中的独特地位和技术要求, 以及针灸实践与理论研究中气穴概念的深入理解和应用的重要性。

[关键词] 针灸；穴位；气穴；得气

穴位作为针灸学科的核心基础之一，对其覆盖内容的理解于针灸医师及针灸研究至关重要。当前，对穴位的现代研究主要集中于探究其解剖学上的特性，即穴位对应的解剖组织究竟是什么。这种研究取向基于一个前提，即介绍穴位的内容被明确定义为具体的解剖结构。然而，如果介绍穴位的内容超出了解剖结构范畴，那么仅从解剖学角度探索穴位是远远不够的，甚至可能会产生认识偏差。目前，针刺有效性的研究成果很多，但针刺疗效确定性的研究成果并不一致，而针刺临床又常常以穴位作为刺激的关键介绍，针灸穴位数目从《黄帝内经》的 160 穴到《针灸逢源》的 361 穴，对人体 365 穴的理解一直困扰着针灸临床家和学者们。笔者在本文中尝试从临床视角对古典针灸书籍中介绍的 365 穴内容做一解读。

1. 穴位的定义及内容

1.1 教材为主流的定义和内容：

“腧穴是人体脏腑经络之气输注于体表的特殊部位”^[1]。腧，亦作“输”，或从简作“俞”，有传输、输注的含义，言经气传输之义；穴，即孔隙，言经气所居之处；腧穴，是对穴位的统称；输穴，是对五输穴中第三个穴位的专称；俞穴，专指特定穴中的背俞穴。从教材为主流的介绍中，我们可以看得出已经先入为主把穴位的认识方向定为特殊的部位，并把穴位的特异性介绍为“孔隙”，也就意味着目前穴位研究的方向是特异性的解剖研究，对穴位唯解剖方向研究或许能拓深穴位的介绍，但也容易造成对穴位产生认识偏差。同时，因为人体全身都是特殊部位，所以对“特殊部位”就会有各种不同的发现及解读，也容易诞生全身都是穴的“泛穴位”说法。

1.2 穴位的原貌

穴位是现代说法，研究穴位的学者大都认为古典针灸书籍中记载的荣、俞、井、腧、输、节之交、节者、气穴、气府、穴、脏俞、腑俞、水

俞、热俞、寒热俞、脉气所发者、分肉、溪谷、胷俞、背俞、膺俞、会、神气之所游行出入、游针之居、机…等与穴位等同，也称之为腧穴、输穴。针灸学科中穴的原貌为气穴，首次见于《素问·阴阳应象大论》：“气穴所发，各有处名”^[2]，而且在整个《黄帝内经》中是没有腧穴及穴位这个说法的，也没有井穴、荣穴、输穴、经穴、合穴，这类五输穴说法，同样也没有背俞穴的说法，笔者在文章题目中用上穴位代替气穴一词是为了迎合现代针灸术语的需要，本文的主题更确切的题目为“针灸临床视角探讨气穴”。

1.3 气穴的原始文献

气穴出自《黄帝内经》，全书共有 6 篇共 11 处关于气穴的描述，分别为：《素问·阴阳应象大论》1 处：“帝曰：余闻上古圣人，论理人形，列别脏腑；端络经脉，会通六合，各从其经；气穴所发，各有处名；溪谷属骨，皆有所起；分部逆从，各有条理；四时阴阳，尽有经纪；外内之应，皆有表里，其信然乎？”^[3]。《素问·气穴论》4 处：黄帝问曰：余闻气穴三百六十五以应一岁，未知其所，愿卒闻之。水俞在诸分，热俞在气穴，寒热俞在两髀厌中二穴。大禁二十五，在天府下五寸。凡三百六十五穴，针之所由行也。黄帝曰：余已知气穴之处，游针之居，愿闻孙络溪谷，亦有所应乎？帝乃辟左右而起，再拜曰：今日发蒙解惑，藏之金匱，不敢复出。乃藏之金兰之室，署曰：“气穴所在”^[4]。《素问·刺热》1 处：热病气穴：三椎下间，主胸中热；四椎下间，主鬲中热；五椎下间，主肝热；六椎下间，主脾热；七椎下间，主肾热；荣在骶也，项上三椎陷者中也^[5]。《灵枢·四时气》1 处：黄帝问于岐伯曰：夫四时之气，各不同形，百病之起，皆有所生，灸刺之道，何者为定？岐伯答曰：四时之气，各有所在，灸刺之道，得气穴为定。故春取经、血脉、分肉之间，甚者深刺之；间者浅刺之。夏取盛经孙络，取分间绝皮肤。秋取经俞，邪在腑，取之合。冬取井荣，必深以留之^[6]。《灵枢·邪气藏府病形》2 处：岐

伯答曰：刺此者，必中气穴，无中肉节，中气穴，则针游于巷，中肉节即皮肤痛。补泻反则病益笃。中筋则筋缓，邪气不出，与其真相搏，乱而不去，反还内着。用针不审，以顺为逆也^[7]。

《灵枢·胀论》2 处：黄帝问于岐伯曰：《胀论》言：“无问虚实，工在疾泻，近者一下，远者三下。”今有其三而不下者，其过焉在？岐伯对曰：此言陷于肉育而中气穴者也。不中气穴，则气内闭，针不陷育，则气不行，上越中肉，则卫气相乱，阴阳相逐。其于胀也，当泻不泻，气故不下，三而不下，必更其道，气下乃止，不下复始，可以万全，乌有殆者乎？其于胀也，必审其胗，当泻则泻，当补则补，如鼓应桴，恶有不下者乎？^[8]

气穴概念在《黄帝内经》里的这些描述覆盖了气穴的分布、作用以及针灸临床的相关发现。《黄帝内经》指出，气穴共有三百六十五个，与一年的天数相应，强调了气穴在调节人体健康中的重要性。《黄帝内经》通过对气穴在不同病症中的应用，以及根据四时变化选择治疗方法的讨论，展示了气穴在针灸治疗中的核心地位。此外，经典文献还强调了准确找到气穴位置的重要性，指出不正确的针刺位置会导致治疗效果的减弱或逆效果。这些讨论不仅体现了古代针灸学的深度，也为现代针灸治疗提供了理论基础。

1.4 气穴原始文献的探讨

我们可以从气穴的原始文献中看到，除了《素问·阴阳应象大论》该篇没有相关针刺临床的内容，其余篇章皆把气穴与针刺临床一起介绍，笔者尝试在这些介绍内容中寻找能解读气穴的关键：

（1）关键词“三百六十五”

在气穴的专篇《素问·气穴论》中，气穴数目为 365 个，并且在《素问·阴阳应象大论》中介绍气穴是有 365 个名字的，为“气穴所发，各有处名”，即每一个气穴都有独特的名字，这是我们现在以穴位名来传播穴位的文献所在，同时与

它的相伴的介绍为“针之所游行也”及“游针之居”；孙络也为 365 个，虽然与气穴数目一样，但是它没具体名字，但关于孙络的介绍为

“以溢奇邪，以通荣卫”^[9]，在《灵枢·血络》中介绍：“黄帝曰：愿闻其奇邪而不在经者。岐伯曰：血络是也”，即介绍孙络的内容为刺络放血排脓类的治疗，为“见而泻之，无问所会”^[10]，看见异常就可以采取措施了，例如放血疗法治疗静脉曲张、看见脓肿刺破排脓等，这些部位往往是病变部位，是随机发生，为浅表血管的异常病变，同时孙络并不具备有细化名字的传播条件。同样在《素问·气穴论》中溪谷亦为 365 个，介绍它的内容为：“积寒留舍，荣卫不居。卷肉缩筋，肋肘不得伸，内为骨痹，外为不仁，命曰不足，大寒留于溪谷也。”，在《素问·阴阳应象大论》对溪谷的介绍为“溪谷属骨，皆有所起；”。即溪谷与骨是相连接的，对应了现代解剖学中的肌腱及韧带；溪谷的特点为“易积寒、卷肉缩筋”，对应现代解剖学中的肌腱及韧带类病症是相符，当肌腱及韧带受伤时，会导致相关的关节屈伸不利，肋肘不得伸；溪谷的治疗方式是“其小痹淫溢，循脉往来，微针所及，与法相同。”^[11]，与孙络所采取的措施均为一种直接刺到病变部位的刺法。它也没有具备细化名字的传播条件。

从这三个 365 中可以发现的是刺气穴与刺孙络、溪谷的工具是不同的。刺孙络、溪谷的方法为微针所及刺到即可，例如放血、排脓及刺一些小肿物及包块时，刺到具体的病变位置并处理干净，所采取针具的形状及大小也随着病变部位而改变，比如处理膝关节的积液，采取方便排积液的针具，切割腱鞘囊肿及一些纤维性包块类的，采用具有切割功能的针具。刺气穴选择的工具要具备有“游针”的特点，即为用针去找的意思，同时尽量的减少组织的损伤，在内经介绍的九针中最符合这些要求的是毫针。

再细数《素问·气穴论》及《素问·气府论》中相关章节所记载穴的数目与 365 是不相符的，尤其是《素问·气府论》中就远超出了 365 个

数目。《素问·气穴论》中对气穴数目的介绍：“脏俞五十穴。腑俞七十二穴。热俞五十九穴。水俞五十七穴。头上五行，行五，五五二十五穴。中 di(月字旁一个吕) 两旁各五，凡十穴。大椎上两旁各一，凡二穴。目瞳子、浮白二穴。两髀厌分中二穴。犊鼻二穴。耳中多所闻二穴。眉本二穴。完骨二穴。项中央一穴。枕骨二穴。上关二穴。大迎二穴。下关二穴。天柱二穴。巨虚上下廉四穴。曲牙二穴。天突一穴。天府二穴。天牖二穴。扶突二穴。天窻二穴。肩解二穴。关元一穴。委阳二穴。肩贞二穴。瘖门一穴。齐一穴。胃俞十二穴。背俞二穴。膈俞十二穴。分肉二穴。踝上横二穴。阴阳跷四穴。水俞在诸分，热俞在气穴，寒热俞在两髀厌中二穴。大禁二十五，在天府下五寸。凡三百六十五穴，针之所由行也”^[12]。《素问·气府论》中对气穴数目的介绍：“足太阳脉气所发者，七十八穴；足少阳脉气所发者，六十二穴；足阳明脉气所发者，六十八穴；手太阳脉气所发者，三十六穴；手阳明脉气所发者，二十二穴；手少阳脉气所发者，三十二穴；督脉气所发者，二十八穴；任脉之气所发者，二十八穴；冲脉气所发者，二十二穴；足少阴舌下。厥阴毛中急脉各一。手少阴各一、阴阳跷各一”^[13]。

在介绍气穴关键的两篇文章《素问·气穴论》及《素问·气府论》中，我们可以看到所记载的穴位数目与 365 这个数目是不相符的，其中《素问·气府论》介绍的穴位数目为 381 个，并且从《素问·气府论》对穴位数目的介绍中，我们看不到手太阴、手厥阴、足太阴以及足厥阴的介绍，但我们在《黄帝内经》的其它篇章中可清楚的看到这些经上有相关穴位的介绍，例如《灵枢·动输》篇中介绍肺经的“少商、鱼际、太渊、经渠、尺泽”以及另外 3 条经的相关穴名介绍。由此我们可以看到《黄帝内经》该书所经历的年代是不同的，《灵枢·动输》该篇文章可能是较《素问·气府论》晚的篇章。

根据《素问·气穴论》对气穴介绍，有“脏俞、腑俞、热俞、水俞、寒热俞、胸俞、背俞、膈俞...等”按属性及部位介绍气穴的，也有“大椎、目瞳子、浮白、犊鼻、上关、下关、天柱、

巨虚、曲牙、天突、天府、天牖、扶突、天窻、肩解、关元、委阳、肩贞...等”个体化介绍气穴的，笔者试着跳出专业知识的视角，并以行业的视角来看待这篇文章。“脏俞、腑俞、热俞、水俞、寒热俞、胸俞、背俞、膈俞...等”为大公司；“大椎、目瞳子、浮白、犊鼻、上关、下关、天柱、巨虚、曲牙、天突、天府、天牖、扶突、天窻、肩解、关元、委阳、肩贞...等”为小个体户；那么，《素问·气穴论》中介绍“乃藏之金兰之室，署曰：“气穴所在”即可从现代行业理解为注册企业及个体户的工商局。

同时，根据《素问·气府论》对气穴的介绍，笔者亦试着从行业的视角来看待这篇文章：足太阳地区 78 个穴位注册数目；足少阳地区 62 个穴位注册数目；足阳明地区 68 个穴位注册数目；手太阳地区 36 个穴位注册数目；手阳明地区 22 个穴位注册数目；手少阳地区 32 个穴位注册数目；督脉地区 28 个穴位注册数目；任脉地区 28 个穴位注册数目；冲脉地区 22 个穴位注册数目；足少阴、手少阴、厥阴地区各 1 个穴位注册数目。笔者认为，从行业的视角去看这两篇关于气穴的文章，说明了当时的针灸行业是非常繁荣。那么，365 这个数目可理解为气穴、孙络、溪谷注册名字的底线，太多名字并不利于传播，对当时的针灸行业会造成混乱。我们现在看 365 个穴名，有注册类似的穴名，例如足三里、手三里、手五里；曲池、曲泽；极泉、天泉等；但更多是天马行空式的，例如同一条肺经上的穴位介绍：云门、中府、天府、侠白、尺泽、孔最、列缺、经渠、太渊、鱼际、少商等。细化注册的穴名，其目的在于更好的传播，在传播的价值中可分为发现价值及技术价值；显然，细化穴名的传播中，其传播的技术价值远大于发现价值。

《黄帝内经》中有大量发现价值的介绍。举证：血络、孙络、浮络；辅骨、头横骨、复骨、胛骨、橛骨、膈中陷骨。可见，在传播发现价值时，往往都会使用同类的语言。同时，内经中用“气穴”、“节之交”、“荣”、“俞”、“游针之居”、“神气之所游行出入也也”、“机”...等不同文字来传播气穴，说明了它们不只是传播某种发现，更重要的是传播与气穴相关

的技术。《素问·气穴论》的开篇为技术价值的传播做了很好的铺垫：黄帝问曰：余闻气穴三百六十五以应一岁，未知其所，愿卒闻之。岐伯稽首再拜对曰：窘乎哉问也！其非圣帝，孰能穷其道焉！因请溢意，尽言其处。帝捧手逡巡而却曰：夫子之开余道也，目未见其处，耳未闻其数，而目以明，耳以聪矣。岐伯曰：此所谓：

“圣人易语，良马易御”也。帝曰：余非圣人之易语也，世言真数开人意，今余所访问者真数，发蒙解惑，未足以论也。然余愿闻夫子溢志尽言其处，令解其意，请藏之金匱，不敢复出^[14]。

《黄帝内经》的这些论述涉及气穴、孙络和溪谷的数量和功能。气穴的数量被认为是 365 个，并且每个气穴都有自己的名字和特定的治疗功能。这些气穴的名字和功能被用作针灸治疗的基础。孙络也有 365 个，但它们没有具体的名字，主要用于放血和排脓治疗，如治疗静脉曲张和脓肿。溪谷也是 365 个，关联于肌腱和韧带的问题，如腱鞘炎，其治疗方式侧重于切割式的治疗。《黄帝内经》还讨论了气穴的命名和技术价值传播的重要性，指出 365 这个数字更多地是一个行业需求，用以对气穴的学习和传播。尽管《黄帝内经》和后续文献中关于气穴的数量描述不一，但使用 365 这个象征日历年天数的理由作为气穴注册名字的数目底线，揭示了针灸学科在古代的成熟、繁荣及其占据医疗行业的主流地位。《黄帝内经》中的岐黄对话，强调了气穴对医疗行为的重要性，以促进更多的人参与气穴的技术研究。这些讨论展示了中医穴位学的丰富内涵和在传统医学中的核心地位。

内经中还有一个 365 的描述，在九针十二原中：“节之交，三百六十五会。知其要者，一言而终，不知其要，流散无穷。所言节者，神气之所游行出入也，非皮肉筋骨也”^[15]。笔者对这段话的理解：在古典针灸书籍中，对刺入位置的介绍有很多用手揣、按、循、切的痕迹，例如：

《难经·七十一难》：“针阳者，卧针而刺之；刺阴者，先以左手摄按所针荣俞之处，气散乃内针。”^[16]、《难经·七十八难》：“知为针者，信其左；不知为针者，信其右。当刺之时，

先以左手厌按所针荣、俞之处，弹面怒之，爪而下之，其气之来，如动脉之状，顺时针而刺之。”

^[17]、《灵枢·九针十二原》：“血脉者，在俞横居，视之独澄，切之独坚。”^[18]。医生用手在患者体表进行揣、循、按、切等过程中，能感受到的为组织形态的坚硬、松软、粗糙、柔和、皮温的寒凉及发热等等，这些为皮肉筋骨的形态观和手去触摸的感受，显然用手循按并没有发现“神气”，那么“神气”的发现并非来自用手的揣、按、循、切等，显然这是另一个行为的发现用词。

举例：用手按循足三里，可发现的为皮肉筋骨的坚硬、松软、冰凉、发热、粗糙、柔和等解剖组织的形态及温度等静态表现，这些归为“皮肉筋骨”的内容。实践中，将指腹放置足三里上，同时活动踝关节去感受足三里处，会感受到此处的肌肉组织活动伴随的动态的力量，也就是神气。古人用朴素的语言“神气”来描述这种活动的发现是符合当时的语言传播的，这种线状的活动路径与气穴的语言描述是一致的，与内经中关于气穴的体位要求及针法操作要求形成了一个整体性的临床技术。皮肉筋骨为医者用手按循的发现，神气则为患者主动活动时医者感知的动态变化，因此出现了这种是皮肉筋骨而又不是皮肉筋骨的表达方式：“知其要者，一言而终，不知其要，流散无穷”为这两种行为发现做了很符合当时传播需要的用语。《黄帝内经》中提到的 365 个穴位是“神气”出入的路径，其内容覆盖了身体的解剖组织以及组织动态的力量。通过分析古典文献，如《难经》和《灵枢》，强调了医生通过手法（如触摸、按压）感知穴位的物理特性（如坚硬、温度变化）的同时，需要深入理解和觉察“神气”的动态变化。这种理解不是基于物理触感，而是观察组织动态活动和体内能量的变化。经典文献强调了深入理解“神气”本质对于掌握针灸艺术的重要性，以及这种理解如何影响到针灸技术的传播和实施。

（2）关键词“游针”

刺气穴的特点为游针，对游针的解读就显得非常重要，这里我们不得不探讨一个关于气穴认识中非常重要的方向选择“刺至病所”与“气至病所”，并在明确方向后再去理解游针，同时气穴是具备有具体传播名字条件的，也就是它有非常重要的技术价值。

《黄帝内经》中关于用针的记载主要有两大类：一类为刺至病所，笔者把这类刺法称为经刺，前面介绍刺孙络溪谷是其中的一种，《素问·调经论》中还有关于刺解剖结构的刺法介绍：“病在脉，调之血；病在血，调之络；病在气，调之卫；病在肉，调之分肉；病在筋，调之筋；病在骨，调之骨。燔针劫刺其下及与急者。病在骨，燔针药熨；病不知所痛，两跷为上；身形有痛，九候莫病，则缪刺之；痛在于左而右脉病者，巨刺之。必谨察其九候，针道备矣”^[19]。可以明显的观察到解剖组织是有结构形态改变的，通过针具去改变病变组织的结构形态以达到治疗的目的，刺法为“见而泻之，无问所会”^[20]的一种直观刺法，目的是达到改善解剖结构的形态，用不同的针具达到消肿、排脓、切硬块等，“九针之名，各不同形”^[21]，对应了解剖结构形态变化的不同工具选择。另一种技术为气至病所，笔者把这类刺法称为穴刺，在于调气，主要应用在解剖组织结构的形态没发生明显改变的疾病上，《黄帝内经》中把该类刺法亦称之为缪刺，在《素问·缪刺论》中有具体的记载：“夫邪客大络者，左注右，右注左，上下左右与经相干，而布于四末，其病无常处，不入于经俞，命曰缪刺。”、“治诸经刺之，所过者不病，则缪刺之”、“凡刺之数：先视其经脉，切而从之，审其虚实而调之；不调者，经刺之；有痛而经不病者，缪刺之；因视其皮部有血络者，尽取之。此缪刺之数也”^[22]。

文献描述的络与经为解剖结构，当不舒服的身体部位并没有发生解剖结构的形态改变（当然用现代仪器来做评估是可以有形态改变的，在古代所采取的形态检查手段主要为用手去切循，从用手切循的视角看是没发生形态改变的）则采用缪刺的方法，选择用的刺激位置并非必须在不舒服的部位上，亦可以在远端或对侧位置采取刺激穴

刺，同时在穴刺的工具选择上与它相对应的是损伤性非常小的毫针，在《灵枢·九针十二原》中描述为“毫针者，尖如蚊虻喙，静以徐往，微以久留之而养，以取痛痹”^[23]，当然其它针具在具备穴条件的部位上操作的过程中也有可能伴随着穴刺。

在穴刺的认识中，需要思考毫针能改变什么这个问题，以毫针为代表的微针并不能改变组织结构的形态，那么它能改变的是组织的环境，即紧闭、松软、空虚、黏腻、硬结、寒凉、温热等，并在穴刺过程中，通过微针对组织的深入观察形成了对脏腑功能的判断。《灵枢·九针十二原》：“睹其应，而知五脏之害矣”^[24]，睹即观察，望闻问切四诊是开方体系观察的手段，很显然针灸学科除了望闻问切四诊的观察，还增加了用针具刺入组织的观察。我们看《黄帝内经》对中药的称呼为“毒药”或“甘药”，可以看出内经时期中药体系并未成熟，而该时期的中医基础语言框架已经完整的起好，并且针灸体系已经非常成熟，提示了针灸体系对中医的基础语言框架形成起到了关键性作用。

比如在《灵枢·邪气藏府病形》篇中记载“黄帝曰：病之六变者，刺之奈何？岐伯答曰：诸急者多寒；缓者多热；大者多气少血；小者血气皆少；滑者阳气盛，微有热；涩者多血少气，微有寒。是故刺急者，深内（纳的通假字，下同）而久留之。刺缓者，浅内而疾发针，以去其热。刺大者，微泻其气，无出其血。刺滑者，疾发针而浅内之，以泻其阳气而去其热。刺涩者，必中其脉，随其逆顺而久留之，必先按而循之，已发针，疾按其痛，无令其血出，以和其脉。诸小者，阴阳形气俱不足，勿取以针而调以甘药也”^[25]。这里面的急、缓、大、小、滑、涩是针刺组织的反射表现，并根据这些表现形成了非常独特的中医语言，反射出来比较急的为寒证、缓慢的为热证、大的为多气少血、小的为气血皆少、滑的为阳气盛微有热、涩的为多血少气微有寒。在《难经·七十四难》记载“针之要妙，在于秋毫者也。”^[26]也证实了用针观察的事实。改变组织环境是通过微针刺刺激去改变的，而并非是依靠针具的切割作用去改变，所以它非常强调针刺

技术，否则气穴就不具备单独细化名字传播的条件。《灵枢·九针十二原》中对该技术的描述为“刺之微，在速迟。粗守关，上守机，机之动，不离其空，空中之机，清静而微，其来不可逢，其往不可追。知机之道者，不可挂以发；不知机道，叩之不发。知其往来，要与之期。粗之暗乎，妙哉！工独有之。往者为逆，来者为顺，明知逆顺，正行无问。逆而夺之，恶得无虚；追而济之，恶得无实。迎之随之，以意和之，针道毕矣”[27]。

可见，“游针”技术并非指具体形状的针具，也不是指针对特定解剖位置的操作，而是一种针刺技术，旨在激活“气穴”。这些“气穴”并非仅仅是解剖结构，而是关于激活组织“皮肉筋骨”的生理功能的综合技术。“游针”是在刺激解剖组织过程中采用的方法和过程，其方法是“刺之微，在速迟”，过程则为“粗守关，上守机”，表现为“空中之机，清静而微，其来不可逢，其往不可追”。举个例子来说明，膝反射的情况：用叩诊锤扣击髌骨下方，则可立即引发膝反射，但如果改用手大力按压髌骨下方，反而不能引发膝反射，这就证明了叩击比重压更能有效地引起反射效应。因此，笔者认为“撞击”一词更能准确地描述使用针具的操作。膝反射是一种低级的脊髓反射，与刺激的时间有关。与之相比，“撞击”所代表的是快速操作，“迟”则指的是“守气”的阶段。针刺带来的刺激时间比叩诊锤更长，通过守气可以引发更高级的反射效应，例如自主神经系统的反应。如《灵枢·九针十二原》中所述，“刺之微，在速迟”被放在针刺技术中最关键的位置，就像膝反射一样，需要快速的“撞击”穴位组织以引发相应的反射，这种效应称为气至，也即得气。后续的论述基于通过针刺“撞击”引发的生理反射进行描述。对于“粗守关，上守机”的过程，初学者缺乏经验，对针刺技术不熟练，很难在得气的瞬间抓住反射变化。因此，“上守机”指的是经验丰富的针灸医生在针刺时能够根据穴位发生的反射变化来判断病情，并采取相应的措施。

“空中之机，清静而微。其来不可逢，其往不可追。”描述的是瞬间的变化。神客、逆顺、迎随等描述的是组织受到刺激时反射出来的强弱与正常状态下对比的语言描述，这些描述突显了

“工”在经验方面的重要性，同时根据这些反应来判断病情并采取相应的措施一补或泻。如《灵枢·九针十二原》中所述，“徐而疾则实，疾而徐则虚”[28]，实际上提示了通过观察针下的反应来判断实证与虚症，而不仅仅是针法的快慢。可见，气穴是需要很有经验的针刺技术才能做到的，它具备了发现价值“节之交，三百六十五会。知其要者，一言而终，不知其要，流散无穷。所言节者，神气之所游行出入也，非皮肉筋骨也。”，同时也具备了技术价值“刺之微，在速迟”、“右主推之，左持而御之”[29]、“知为针者，信其左，不知为针者，信其右。当刺之时，先以左手厌按所针荣俞之处，弹而怒之，爪而下之”[30]等，所以，气穴具备了拥有更细化传播名字的条件，“气穴所发，各有处名”。

这里我们主要探讨了“游针”技术和“气穴”的概念，强调了在针灸中对“气至病所”与“刺至病所”两种方法的理解和应用。《黄帝内经》记载了两大类用针技术：一是直接针对解剖结构的改变进行治疗的“经刺”，二是主要用于调整气的流动，适用于没有明显解剖结构形态改变的疾病的“穴刺”。穴刺技术中使用的毫针，其作用不在于改变组织结构，而是调整组织环境，如松紧、空虚等，通过这种微妙的调整反映出脏腑功能的状态。这些讨论强调了针刺技术和理解“气穴”的重要性，指出经验丰富的针灸医生能够根据反射变化判断病情并采取相应的措施，展示了针灸技术的深度和复杂性。

2. 气至的探讨

鉴于穴刺的目的不在于直接改变解剖结构的形态（需要明确的是，解剖结构的形态改变是相对而非绝对的。这一点取决于观察工具的不同：古代主要依靠肉眼观察和手感，而现代则有先进的医疗仪器辅助，例如现代对神经压迫的理解认为其

涉及到解剖结构形态的变化，而古人可能不会这样认为），其核心在于调整组织的环境，这一点在《黄帝内经》中被清晰定义为“气至”，亦即达到了治疗效果的“得气”状态。现代大学针灸教材对得气的名词解释：得气，古称“气至”，近又称针感，是指毫针刺入腧穴一定深度后，施以一定的行针手法，使针刺部位获得经气感应^[31]。这个解读方向偏于模糊，难以指导临床医生掌握得气的观察指标，由此也诞生了“针刺疗效缺乏确定性”的说法。古典针灸书籍对得气及气至的描述：《灵枢·始终》篇中的记载为：“浅而留之，微而浮之，以移其神，气至乃休。男内女外，坚拒勿出，谨守勿内，是谓得气”^[32]。《灵枢·九针十二原》中的记载为：“刺之而气不至，无问其数；刺之而气至，乃去之，勿复针。针各有所宜，各不同形，各任其所为。刺之要，气至而有效，效之信，若风之吹云，明乎若见苍天。刺之道毕矣”^[33]、“睹其色，察其目，知其散复；一其形，听其动静，知其邪正。右主推之，左持而御之，气至而去之”^[29]。《难经·七十八难》中的记载为：“针有补泻，何谓也？然：补泻之法，非必呼吸出内针也。知为针者，信其左，不知为针者，信其右。当刺之时，必先以左手厌按所针之处，弹而怒之，爪而下之。其气之来，如动脉之状，顺针而刺之。得气，推而内之，是谓补，动而伸之，是谓泻。不得气，乃与男外女内。不得气，是谓十死不治也。”^[34]。《针灸大成·标幽赋》中的记载为：“气之至也，如鱼吞钩饵之沉浮；气未至也，如闲处幽堂之深邃”^[35]。

从这些古典针灸文献中可以观察到得气/气至包含了三个方面内容的：

2.1 具体的操作技术要求--左右手的配合：文献中提到的“男”、“女”实为左右手，男左（手）女右（手），上述两篇关于男女的论述都是在讨论左右手的操作，与性别是没有关联的。“右主推之，左持而御之，气至而去之”：左手，亦称为押手，在针刺技术中的作用主要为控制气穴及判断气至；御，即感受组织的反射活动，在《灵枢·邪气藏府病形》中把组织的反射活动表现描述为“急、缓、大、小、滑、涩”；

右手，在针刺技术中的作用主要为行针撞击，并通过行针对组织环境进行深入的观察，《灵枢·九针十二原》把右手行针对组织深入观察的描述为“犹刺也，犹污也，犹结也，犹闭也”；男内女外及男外女内，实为左右手的配合。组织在受到针尖刺激时会有躲避刺激的行为，故左手的“弹而怒之，爪而下之”为控制组织的操作，弹为按住的意思，可用弹吉他时按住琴弦来理解，爪为抓住的意思，让组织的躲避行为受限，现在针灸学科把左手称之为“押手”，“押”字的含义即具有控制行为之意，在现代针灸教学中把押手的操作技术以舒张、提捏、夹持针体来阐释押手，实为方便进针而非为了更好的达成气至，由此导致了押手在针刺过程中逐渐被边缘化。

2.2 客观的身体反应指征--如动脉之状、如鱼吞钩饵之沉浮；得气/气至的身体反应指征为组织的反射表现，现在有的说法亦称之为“扎跳”、“打跳”、“抽动”等，针刺跳动的三种表现及解读：其一、刺激皮神经的跳动。特点：表现为频率较快，幅度较宽的浅层不规则跳动，古典针灸中的描述为“邪气来时紧而疾”。针感往往伴有刺痛。常易见于压痛点、反映点、激痛点、皮神经卡压、肌肉条索状结节等皮神经受炎性刺激后，电生理反射阈值较低的部位，现在有些观点把该类型称为阿是穴。其二、刺激神经干的跳动。特点：表现为神经干支配的肌肉大幅度抽动，位置较深，需要刺激到神经干，古典针灸中的描述为“邪气来时紧而疾”。针感伴有明显的触电感。其三、刺激肌肉组织引起的跳动。特点：表现为押手下规律性跳动，表现缓和，根据个人、气候及时间可有强弱的差异，需要针尖快速撞击肌肉组织并能达到肌梭效应所需要的阈值，古典针灸中的描述为“谷气来时徐而和”。针感较酸胀，守气时间越长针感延伸越开，拔针后针感保留时间较长，一般可达几个小时至 3-4 天。实际上，这三种针刺跳动同时亦伴随着皮肤、血管、脂肪等组织的反射变化，只是在用手所发现的发现中可不必描述，当然也有些观察更加细致的针灸医生把感受到的皮温变化亦做详细的描述，如烧山火与透天凉。

之所以古典针灸书籍很多时候把气至以组织跳动为主要描述，笔者认为是因为皮肤、血管、脂肪、筋膜等组织的反射变化并不容易以文字的方式来做详细论述，比如通过操作可以使组织由松软变紧，亦可以使组织由紧变松软，故以一句“睹其色，察其目，知其散复；一其形，听其动静，知其邪正。右主推之，左持而御之，气至而去之”来做了一个我们现在认为比较笼统的概况，实际上古人已明确表达了他们对气至的认识，即通过用针来改变组织环境的状态，并通过组织环境的变化来对病情进行评估，故称为“气至而有效”，在《针灸大成·标幽赋》中更是把气至作为针刺疗效确定性的关键，“气速至而速效，气迟至而不治”，对组织环境改变的快慢用来做为针刺疗效的评判指标是符合当时科技条件的。

目前，有大量的科研成果支持了针刺的有效性，但针刺疗效的确定性则非常缺乏实验的支持，这是由于学术中对疗效的评估取决于工具及其方法，现代针灸实验往往喜欢引用现代仪器如多普勒彩超、核磁共振、X线、红外热像仪...等对针刺的疗效进行评估以显示其实验的科学性。对此，笔者认为，目前并没有更好的工具能够完全替代用针以及针灸医生的手感，在缺乏辅助仪器X线、多普勒、磁共振等的条件下，古人用针也具备了发现人体异常的作用，在《灵枢·九针十二原》中有细致的描述“今夫五脏之有疾也，譬犹刺也，犹污也，犹结也，犹闭也。刺虽久，犹可拔也；污虽久，犹可雪也；结虽久，犹可解也；闭虽久，犹可决也。或言久疾之不可取者，非其说也。夫善用针者，取其疾也，犹拔刺也，犹雪污也，犹解结也，犹决闭也。疾虽久，犹可毕也。言不可治者，未得其术也。”^[36]、“刺诸热者，如以手探汤；刺寒清者，如人欲行”^[37]。这些用针对组织环境的深入观察，结合中医望闻问切四诊形成了针灸体系收集病史的主要手段。同时，针刺深入组织的描述对我们理解“水俞”、“寒俞”、“寒热俞”有非常重要的参考价值。在《灵枢·卫气》篇中也有这样的介绍：“能知虚实之坚软者，知补泻之所

在”^[38]，组织的虚实坚软除了手感上的，还有针下感的一种描述。临床上我们对一些慢性疾病进行毫针治疗时，比如慢性胃炎，在胃经足三里扎针往往会有一种针体被夹紧的感受。

可见，古人对得气/气至的掌握并非依靠患者的主观感受，而是掌握在医者用针技术过程中所观察到组织变化的表达，同时根据用针观察组织环境以及针刺反射强弱的前后变化来判断病情。

2.3 患者的主观感受--如风吹云。

这是种主观感受，故很难准确的表达它，古典针灸文献中把该类主观感受用“若风吹云”来描述，笔者理解为一种愉悦感，从患病的难受感到气至后的愉悦感提示了气至对治疗疾病的重要性及有效性，“刺之要，气至而有效，效之信，若风之吹云，明乎若见苍天。刺之道毕矣”^[39]。穴刺的本质并非在于改变解剖结构的形态，而是在于通过改变组织环境来达到治疗的效果，即“气至”或“得气”的全面描述。虽然现代医学设备可以观察到一些解剖结构的形态变化，但依然无法完全替代针灸医生的手及针具的细致发现。穴刺的操作不仅涉及技术上的左右手配合，还包括观察组织的环境变化、组织的反射表现、以及患者的主观感受。古典文献中对得气/气至的描述强调了穴刺的复杂性，涵盖了具体操作技术、身体反应指征以及患者的感受三个方面，展现了对针灸治疗体系的深刻理解和专业技术操作。通过穴刺，古人能够在缺乏现代仪器的条件下，观察和处理人体的各种异常，体现了针灸学的独到之处和实用价值。

3.气穴的古今之别

从古至今，气穴的发展发生了很大的变化，从它的称呼到临床技术应用均有很大变化，至今对气穴的研究依然以“腧穴是人体脏腑经络之气输注于体表的特殊部位”^[40]为主要方向，在该方向的指导下，气穴的研究就成了单一的解剖研究，该方向只能挖掘气穴的发现价值，即研究气穴是否具有特异性解剖结构，而无法挖掘气穴的技术

价值，这也就是造成现在绝大多数针灸科研与临床应用脱节的原因所在，气穴的技术内容也从“气至病所”演变成为“刺至病所”，并产生了“泛穴位”说法，因为全身所有的解剖结构都是特殊的，由此产生了全身都是穴以及真假穴位无区别的结论。

3.1 气穴的称呼及内涵的演变

气穴，研究穴位的学者大都认为古典针灸书籍中记载的荣、俞、井、腧、输、节之交、节者、气穴、气府、穴、脏俞、腑俞、水俞、热俞、寒热俞、脉气所发者、溪谷、胷俞、背俞、膺俞、会、神气之所游行出入、游针之居、机...等都与气穴等同，也称之为腧穴、输穴、穴位。在《灵素·经筋》篇中提到的“治在燔针劫刺，以知为数，以痛为输”^[41]，现在针灸学界喜欢把“以痛为输”中的“输”称为“阿是穴”及“输穴”，这也是促成“输穴”这一演变的解读所在。逻辑上，同一本书中记录同样的事物所书写的文字是不会有那么多不同称呼的，当把这些不同文字称呼的内容都理解为同样一个事物，那么对它的理解很有可能是欠缺的，对穴位理解的欠缺会导致科研与临床脱节的局面，笔者对这些不同的文字表达理解为它们所发现的方式不同而采用了适当的语言来传播。

前面提到在古典针灸书籍中荣、俞为医者用手对解剖组织揣、按、循、切、摸等的发现，可发现组织的坚硬、松软、寒凉、发热、凹凸、皮肤的柔软、粗糙以及患者酸麻胀的主观感受等，故有“血脉者，在俞横居，视之独澄，切之独坚”、“水俞”、“热俞”、“寒热俞”、“脏俞”、“腑俞”等部位以及部位加手切循所感受的描述，它们并不完全等同于气穴。气穴是以“游针之居”来做介绍，而不以手按循为主要介绍，即荣、俞并不完全具备气穴特有的“气至”特征，有些荣、俞有气穴的气至表现，有些则没有气穴的气至表现。输为组织活动的神气路径表达，故有“所出为井，所溜为荣，所注为俞，所行为经，所入为合”^[42]的表达方式；同样，输也并不完全等同于气穴，有些输有气穴的气至表现，有些输并没有气穴的气至表现。故有以痛为

输，而不是以痛为穴的说法。例如：肌腱也常常为神气活动所过的地方，而肌腱痛归为溪谷的内容，这地方发生的病变适合于经刺而并不适合穴刺，如腱鞘囊肿适合采取小针刀切割、火针刺破等改变解剖结构形态的经刺法。

节之交、会、脉气所发者、神气之所游行出入也这几类为组织活动发现的表达语言，笔者建议读者放手在足三里上并活动踝关节去感受神气会有清晰的体会，古人用这些语言来表达这类发现是很符合文字传播的。针刺临床中，用专业的针刺技术在该活动路线上可成熟的做到气穴特有的“气至”表现。

3.2 气穴取法的演变

在古典针灸文献中，气穴的取法往往是比较宽泛的，也常常以“脉”的方式来取，《素问·气府论》中也明确以“脉气所发者”来说明穴的身份特征，现在演变成了用手指同身寸测量的方式以点取穴。例如《灵枢·本输第二》“入于尺泽，尺泽，肘中之动脉也，为合，手太阴经也”^[43]、“缺盆之中，任脉也，名曰天突。一次（脉），任脉侧之动脉，足阳明也，名曰人迎；二次脉，手阳明也，名曰扶突；三次脉，手太阳也，名曰天窗；四次脉，足少阳也，名曰天容；五次脉，手少阳也，名曰天牖；六次脉，足太阳也，名曰天柱；七次脉，颈（别本作项）中央之脉，督脉也，名曰风府。腋内动脉，手太阴也，名曰天府。腋下三寸，手心主也，名曰天池”^[44]。

那么，如何更合适的理解气穴中的脉对气穴的认识是非常关键的，笔者认为站在发现的视角方式去看是更合适的，即本文上面阐述“节之交，三百六十五会。知其要者，一言而终，不知其要，流散无穷。所言节者，神气之所游行出入也，非皮肉筋骨也。”的理解方式，神气活动的形式为线状的，古人用脉来表达是符合传播要求的。举例：尺泽，肘中之动脉也；有些学者对该脉的理解为血管动脉，笔者试着解读它的原貌。从血管动脉来看，尺泽附近有桡侧返动脉及桡动脉，这个以血管动脉来理解具有一定的证据，但正是这

种唯解剖发现的思维框架下出现了很多疑问，在桡动脉搏动明显处的“太渊”、“经渠”，《灵枢·本输》并没有赋予它们“动脉”的身份，

“注于太渊，太渊，鱼后一寸陷者中也，为俞；行于经渠，经渠，寸口中也，动而不居为经；”，反而在揣按并感受血管动脉并不明显的“尺泽”赋予了动脉身份。显然，对尺泽动脉的理解为血管动脉是不符合基本阐述逻辑的。反而从神气活动的线状方式来理解是非常符合它所发现方式的表达原则的，也符合气穴身份特征“脉气所发者”。

3.3 气穴体位的演变

在论述气穴具有极高的技术传播价值中，体位的要求是非常重要的，《黄帝内经》中对气穴的体位要求亦有明确的记载，例如：曲泽，肘内廉下陷者之中也，屈而得之，为合，手少阴也；曲池，在肘外辅骨陷者中，屈臂而得之，为合，手阳明也；曲泉，辅骨之下，大筋之上也，屈膝而得之，为合，足厥阴也；小海，在肘内大骨之外，去端半寸陷者中也，伸臂而得之，为合，手太阳经也；中封，内踝之前一寸半，陷者之中，使和则通，摇足而得之，为经；天井，在肘外大骨之上陷者中也，为合，屈肘乃得之；阴陵泉，辅骨之下，陷者之中也，伸而得之，为合，足太阴也；阴谷，辅骨之后，大筋之下，小筋之上也，按之应手，屈膝而得之，为合，足少阴经也；阳陵泉，在膝外陷者中也，为合，伸而得之，足少阳也；委中，腘中央，为合，委而取之，足太阳也；取之三里者，低跗取之；巨虚者，举足取之；委阳者，屈伸而索之；委中者，屈而取之；阳陵泉者，正竖膝，予（与的通假字）之齐（脐的通假字，下同）下至委阳之阳取之。取诸外经者，掄申而从之。

这一系列对气穴的体位及取法，同时也说明了在同样的思维框架下，所有的气穴都是有体位及取法要求的，其方向是与“神气之所游行出入也”的发现过程是一致的，即在该体位及取法中更能明显的感受到神气的活动，并且医者自己活动起

来去感受自己的神气活动比用手去感受患者的神气活动更加的清晰。至此，我们可以看到《黄帝内经》中的“内”字所包含的内涵以及传闻华佗所具有“内观”功能实为自己观察自己的语言描述而并非是具有内视的特异功能了。我们现在的针灸教材对体位要求的并不重视，以基于标准的解剖学姿势来取穴，实为缺失了对气穴技术价值的挖掘。

关于 365 个气穴数目“以应一岁”的解析。笔者认为针灸学科的主要治疗工具从最初的砭石到粗的九针再到更细的毫针发展，意味着古人对疾病的认识也发生了变化，不同的治疗工具有不同的治疗目的，针刺治疗的目的也从最初改变组织结构形态的经刺到改变组织环境的穴刺认识和发展。更细的毫针与较粗的针具相比更有利于针灸医生去做更多的临床试验和发现，在用细的毫针深入人体组织进行临床探索及发现过程中形成了一些规律性总结，例如左手感受到针下的组织反应“急、缓、大、小、滑、涩”、刺手感受到的组织环境“譬犹刺也，犹污也，犹结也，犹闭也。”、针刺操作的技术“刺之微，在速迟”以及针刺产生“气至”特异性的总结等。由于用细的毫针进行临床尝试中产生了很多有价值的发现及技术，针灸行业也会鼓励更多的针灸医生进行更多的临床试验，并根据针灸医生的临床试验以文字方式进行社会传播，在传播针刺的位置时，就会允许针灸医生以个性化的名字对针刺位置进行介绍，穴位以及相应命名也随之在这些临床试验以及发现的过程中总结而形成，故又把“游针之居”与穴位一起相介绍，早期称之为“气穴”。在古代没有现代先进的实验室仪器及设备辅助进行针刺临床试验，针灸医生需要用手寻找针刺位置，故对针刺位置介绍时有很多用手揣、按、切、循的“荣”、“俞”介绍、有以痛点为针刺位置介绍的“以痛为输”、也有需要活动配合的“神气之所游行出入也”介绍等等。从“神气之所游行出入也”的针刺位置看是线状而不是点状的，在该线状的位置中进行针刺容易产生“气至”的特殊性，由于针灸医生需要以个性化穴名介绍针刺位置，由线状到点状就需要提供更

多的位置满足穴位命名这一需求。针刺位置从线状到点状的介绍，可清晰的理解为什么好多穴是由脉演变而来，线可提供无数个点，气穴三百六十五以应一岁这个理由是穴名以及孙络溪谷注册个性化名字的数目底线。同时又由于孙络溪谷是“见而泻之，无问所会”，操作上技术要求并不高，所以它就不具备个性化名字的注册条件，但《黄帝内经》在给气穴注册个性化名字的过程中也顺便提了一下孙络溪谷注册个性化名字的数目底线。

在《黄帝内经》该书中，对针灸体系介绍有完整的逻辑闭环。从神气之所游行出入也、穴位的取法、体位要求、操作技术介绍、针刺禁忌、治神守气、个性化的穴位名以及穴名的“365 以应一岁”、动输…等等一系列的文献描述，它们的整体性体现在同一个“游针”的技术描述，在针刺临床中也指向一个操作方向“得气”。这些与穴位内容相关的介绍与以“形、气（神）、血”为主要框架的针灸学科形成一个完整的逻辑闭环，笔者用现代语言把该框架以“组织结构、环境、营养”来表达。形为组织结构的形态，在针灸学科中有改变组织结构形态的“经刺”；气（神）影响组织的环境，即古人早观察到组织的环境受外界及情绪影响，在中医的语言中称为“六淫”和“七情”，故有针刺泻邪气及治神的说法；中医之血，即组织的营养，包涵了血液及水液；这三者之间互相依存并互相影响，构成了针灸体系乃至整个中医体系的大模型。在该模型下，气穴的出现很好的解析了组织环境这一个重要的支架。改变组织结构的“经刺”、改变组织环境的“穴刺”以及改善组织营养的“甘药”构成了中医学科对人体生理病理认识的大模型，该模型在现代的医疗体系中依然具备很强的生命力。

气穴概念及其应用从古至今经历了一系列演变。现代针灸教材在介绍气穴时，已经把气穴改称为穴位或腧穴，气穴也被定义为人体脏腑经络之气输注的特殊部位，这一定义指导下的研究主要集中于解剖学方面，探求气穴是否具有特定的解剖结构。这种研究取向虽然丰富了对气穴发现价值的认识，但却忽视了气穴在针灸技术中的实际应用，导致科研与临床应用之间的脱节。气穴

的技术内容也从“气至病所”转变为“刺至病所”，并引入了“泛穴位”的说法。通过考察气穴称呼及内涵的演变，古典针灸文献中对气穴的多种称谓实际上反映了不同的发现方式和传播语言。举例说明，如“荣、俞”等表达的是通过触摸发现的解剖结构特征，“输”则关联于组织活动的神气路径。这些不同的称谓和描述强调了对气穴多维度理解的重要性。气穴取法的演变暴露古代文献中气穴取法较为宽泛，常以“脉”的方式来取，而现代则转向以手指同身寸测量的精确取穴方式。这种变化可能導致了对气穴技术价值的挖掘不足。气穴体位是重要的，《黄帝内经》中明确的体位要求在现代针灸教育中可能被忽视。恰当理解和应用体位要求是挖掘气穴技术价值的关键。对气穴古今演变的全面理解对于深化针灸学科研究和提高临床应用的重要性。

小结：无论穴位是什么，它必然有发现的过程、工具以及应用。目前对穴位的发现主要有这四种假设“1、解剖发现；2、用手揣按发现；3、用针发现；4、内功修炼发现”，同时针灸学科由砭石，粗针到微针的发展，意味着从经刺的改变组织结构的形态到改变组织环境的穴刺认识，笔者根据经典文献的描述结合针刺技术的临床发现进行了阐述，提供以下结论：

一、气穴被定义为针刺操作中特有的、展现了用针过程中对组织环境的观察及其改变组织环境的操作技术，是在针灸实践中发现的重要概念，也被称作“游针之居”。

二、气穴的显著特点是呈线状分布，反映了多解剖组织在体表的的活动线，展现出不同深浅层次的气的流动或到达状态，而非单一点状结构，故我们常常可以看到最初由“脉”演变而来的穴位。

三、针对气穴的针刺技术要求细致入微，追求“刺之微，在速迟”的操作精神，将这一操作比喻为针刺手法中的“撞击”，并强调押手的配合以限制组织对针尖的躲避，以提高针刺效果。

四、诸如荣、俞、井、腧等多种称呼反映了通过手法探查解剖结构而得到的不同发现，虽与气穴有部分重叠，但也有其独立特征，说明了气穴是一种更为动态的发现，涉及“神气之所游行出入”的概念。

五、气穴的 365 个命名反映了学科发展的需求，旨在方便传播和应用，但也提醒我们避免过度“模仿”或“山寨”，保持行业秩序。《素问》中对气穴的线状分布和命名做了明确的规定，限定了注册穴位名字的数目。

六、在《黄帝内经》时期，中医理论尚未完全成熟，尤其是中药学部分，而针灸理论框架已相对成熟，形成了中医独特的基础语言框架。不同于能直接改变解剖结构形态的砭石和粗针，毫针的作用在于通过刺激改变组织环境，如软硬、温寒等，通过细致的针刺观察和中医四诊形成了丰富的中医诊断语言体系；改变组织结构的“经刺”、改变组织环境的“穴刺”以及改善组织营养的“甘药”构成了中医学科对人体生理病理认识的大模型，该模型在现代的医疗体系中依然具备很强的生命力。

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针灸神阙穴（CV8）的临床探索

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摘要：

针灸作为传统中医疗法的重要组成部分，神阙穴作为其中一个经典穴位，在临床中具有广泛的应用价值。本研究旨在系统探索针灸神阙穴在临床应用中的疗效和安全性。通过回顾相关古籍文献和现代临床研究，分析针灸神阙穴在历代古籍里的禁针原因，找出近代医家对于神阙穴针灸的临床探索，结果表明，针灸神阙穴在临床中显示出显著的治疗潜力，并且具有良好的安全性。然而，尚需更多高质量的临床研究数据来验证其疗效，并进一步探索其作用机制。

关键词神阙穴（CV8）针灸古代禁针临床探索

Clinical Exploration of Acupuncture at Shenque (CV8) Acupoint

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New Heighte therapeutic Acupuncture Clinic

Abstract:

Acupuncture, as an essential component of traditional Chinese medicine, has wide-ranging clinical applications for various conditions. Shenque (CV8) acupoint, a classic acupuncture

point, has drawn significant attention in clinical practice. This study aims to systematically explore the efficacy and safety of acupuncture at Shenque (CV8) acupoint in clinical applications. By reviewing relevant ancient texts and modern clinical studies, we analyze the reasons for the historical prohibition of needling at Shenque (CV8) in ancient medical literature and identify the clinical explorations of modern physicians on acupuncture at Shenque (CV8). The results indicate that acupuncture at Shenque (CV8) acupoint demonstrates significant therapeutic potential and good safety profile in clinical practice. However, more high-quality clinical research data are needed to verify its efficacy and further explore its mechanisms of action.

Keywords: Shenque (CV8) acupoint acupuncture; historical prohibition; clinical exploration

引言:

针灸作为一种传统中医疗法，在临床实践中得到了广泛应用，取得了显著的治疗效果。神阙穴（CV8）作为一个重要的针灸穴位，因其临床应用而受到广泛关注。神阙（Cv8）位于腹部正中线，被视为重要脏腑器官的汇聚点，在传统中医中常被称为“精门”。神阙穴（CV8），又称为气中、气舍、下丹田、命底、气户、前命门和环谷，是任脉上的关键穴位。这一穴位最早《素问》，记载着：“...气一穴，...穴之凿”，《针灸甲乙

经》是首次使用“神阙穴（CV8）穴位”这个名称的文献，记载着：“脐中有神阙穴，一名气舍，不可针

也”。其他文献如《针灸铜人》、《针灸集成》、《金针秘传》和《普济方》都将其称为“气户”。

这些古代文献表明，神阙穴（CV8）可以调节器官功能，平衡阴阳，固本培元，回阳救逆，补益脾胃，理气和肠等功能。在古代和现代中医临床实践中，对神阙穴的疗法被广泛应用于常见疾病、慢性病和复杂疾病的治疗中，取得了良好的临床效果。

本文旨在通过对古代文献、神阙穴（CV8）疗法的方法和适应症以及腹部针灸的现代临床应用的研

究，系统全面地探讨神阙穴的现代针灸适应症和优势。通过参考文献数据，本研究将列举针灸和艾灸技术在神阙穴上的适应症，为将来更深入研究神阙穴针灸的可行性提供理论依据。

讨论:

针灸神阙穴（CV8）针灸禁穴理论和针灸探索神阙穴（CV8）一直被视为禁针穴位。包括《针灸甲乙经》、《普济方》和《圣济总录》在内的各种古

代医学文献将神阙穴（CV8）归类为禁针穴位。这一禁针的原因可以从几个方面进行分析：首先是

这个穴位的位置，神阙穴（CV8）位于脐中凹陷处，容易积聚杂质。在古代，由于医疗条件有限和

消毒技术欠缺，针灸神阙穴（CV8穴）可能会导致感染。另外神阙穴（CV8）具有丰富的神经末梢，

针刺时会引起剧烈疼痛。此外，脐部是在出生后脐带愈合形成的，产生了疤痕组织，使得插针变得

困难。还有神阙穴（CV8）位于腹壁最薄的部位，粗心的针刺可能会损伤小肠，导致继发感染。最

后在古代，抗生素尚未发明，由针灸导致的感染难以迅速治疗，并可能恶化。因此古代文献明确规定

神阙穴是禁止针刺的穴位，只能用于艾灸疗法。这一禁忌至今仍然被许多中医医师所遵守。然

而，现代中医临床研究的发展揭示了针刺神阙穴的疗效，挑战了长期以来对于神阙穴禁止针刺的观念。

在古代医学中，神阙穴被认为是调节人体气血的关键穴位。根据经络理论，经络是连接和调节人体生理功能的通道。神阙穴作为气血循环的中枢，在整个经络系统中起着至关重要的作用。古代

医师认为艾灸可以温暖和刺激经络，调节气血流动，从而达到治疗和预防的效果。这一观点在古代医学中被广泛采纳，并成为禁止针刺神阙穴的依据。然而，随着现代医学技术和临床研究的进展，禁止针刺神阙穴的观念受到了质疑。针刺神阙穴在临床上从有文字记载可以看到清末民初就已经在民间开始运用。1960年，《江苏中医》第1期“试针神阙穴的初步观察”是解放后第一篇正式

介绍神阙针刺的案例疗效文章，文中周伯如介绍以针刺神阙以治疗腹痛、泄泻、排尿困难，子宫脱

垂、浮肿、单纯性腹泻共9例案例，无一例发生变化及后遗症，均获满意效果[1]。此外当代学者和

医务人员强调，在施行针灸治疗神阙穴（CV8）时，要注意细致的消毒和浅层的刺激。他们认为，神

阙穴（CV8）作为内脏器官的重要部位，在调节和开启脏腑之间起着重要作用，特别是对于腹痛和

癫痫等症状。他们还主张，对于将神阙穴

（CV8）归类为禁针穴位的想法可能会妨碍许多疾病的缓

解，导致不必要的痛苦。对于神阙穴（CV8穴）穴位疗法的这种不断演变的观点，反映了中医药的

动态性，融合了历史智慧和现代进展。

神阙穴（CV8）的现代针灸临床应用

刘思银分析了针刺结合药物敷贴和热疗对神阙穴的作用，改善老年患者术后胃肠功能。结论是，针灸结合药物敷贴和热疗对神阙穴（CV8）可以有效改善老年患者术后胃肠功能，并且还可以降低

血清白细胞介素水平[2]。

此外，吕晓洲等人探讨了以神阙穴为重点的腹部按摩，治疗患有肾脏疾病的儿童的胃肠道疾病。研究发现，刺激神阙穴的腹部按摩可以调节胃肠功能，并改善肾病患儿的相关症状[3]。婴儿腹

泻是由多种因素引起的一种综合征，表现为大便频繁，大便呈稀糊状。刘龙彪等人用针灸治疗了178

例婴儿腹泻患者，其中男性92例，女性86例，年龄从6个月到9岁，平均年龄4岁8个月。病程从2天

到2个月28天不等。治疗方法：神阙穴消毒用碘酒，酒精去碘，针刺0.5英寸，快速插入，慢速退出，

轻轻按压和抬起，不保留针头，每天一次，每个疗程持续5天。结果：经过3个疗程的治疗，178例患

者中有149例痊愈[4]。邱景奎、金小青使用“阴火归元”原则（通过去除过剩的火元素来补充本源），

观察了温针对神阙（CV8）穴位治疗原发性高血压的效果。方法：将36名原发性高血压患者随机分

为治疗组和对照组，每组18例。治疗组在神阙穴位进行针灸，并在针尖点燃艾条，每隔一天保留针

灸30分钟，连续进行30天。结论是神阙穴位针灸结合“引火归元”原则可有效降低原发性高血压患

者的血压，特别是降低舒张压，并且还能显著改善头痛、头晕、心悸、耳鸣、失眠和烦躁等临床症状[5]。凌建伟治疗了26例打嗝患者的案例，取得了令人满意的疗效。以下是案例摘要：26例患者

全部为门诊患者，包括男性19例、女性7例，年龄从12岁到71岁不等。病程从1天到9天不等，轻症

病例出现间断性打嗝，重症病例出现持续性打嗝。其中，20例曾经接受过西医治疗，但效果不佳

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[6]。李洪武等发现，在神阙穴位进行针灸可以显著缓解急性腹痛，有效缓解疼痛而没有明显的不良反应[7]。同样，金哲凡等观察到了针灸神阙

穴位治疗急性腹痛的疗效，注意到患者疼痛症状明显

而持续缓解[8]。因此，神阙穴位针灸在治疗急性腹痛方面具有一定优势。在胃肠道疾病的背景

下，神阙穴位针灸显示出积极的疗效。曹维民的研究揭示了使用火针在神阙穴位治疗肠易激综合征可以显著改善患者的症状，缓解腹痛和腹泻等不适，观察了58名患者。结果显示症状显著减轻，

没有明显的不良反应。[9]。此外，潘世中的研究表明，在神阙穴位针灸对慢性溃疡性结肠炎具有一定的治疗效果[10]。这些研究结果表明，神阙

穴位针灸可以作为辅助治疗，帮助患者缓解与胃肠道疾病相关的不适。此外，程宝书等人探讨了神

阙穴位针灸在治疗神经系统疾病中的应用，发现针灸神阙穴位可以改善失眠、焦虑和其他神经系统疾病的症状[11]。这些研究结果表明，神阙穴

位针灸在不同疾病中展现出了适应性，为临床医生提供了额外的治疗选择。

案例分析：

案例1: 使用神阙穴（CV8）针灸治疗子宫脱垂

患者：白人女性，45岁

病史：持续的子宫脱垂症状影响生活质量。西医治疗效果不明显，根据病人的情况医生建议手术切除。病人来诊时表示抗拒服药，首次问诊触诊发现病人四肢冰凉，脉象虚弱无力，舌淡胖白，有

齿痕无苔，诊断表明器官虚弱，气血不足，属于寒凝气滞型。

治疗方案：月经期后进行神阙穴（CV8）的针灸治疗。病人被置于仰卧位取一次性毫

30mmx0.22，

对穴位进行消毒后，使用一次性针灸针水平或斜向插入，深度为0.5至0.8英寸。然后进行针刺技术。根据病人的具体症状和体质，选择轻度刺激方法，每次针灸持续约20分钟，利用神阙穴

（CV8

）的针刺调和气血，增强器官功能，并结合适当的按摩，取仰卧位，用掌摩法以关元为中心，顺时

针、逆时针按摩小腹各100次;再用掌擦法，双手斜向擦小腹部，以热为度;后用掌按法持续按压神

阙穴3分钟。连续10周，每周治疗一次。利用神阙穴（CV8）的针刺调和气血，增强器官功能，经过

10次治疗，子宫脱垂症状显著减轻，患者的生活质量明显改善。

案例2: 使用神阙穴（CV8）针灸和艾灸治疗月经不调

患者：白人女性，30岁

主要症状：月经不调，月经提前或延迟。月经血呈暗红色，质地粘稠，伴有疲劳和腹胀。脉沉涩，

舌暗红。中医针灸诊断表明气滞血瘀。

治疗方案：月经前后进行神阙穴（CV8）针灸和艾灸治疗。针灸神阙: 取一次性毫针

30mmx0.22,对

穴位消毒后45度角进针0.5英寸左右，做轻微手法刺激穴位，待到病人有针感后留针20分钟后拔

出。艾灸神阙穴：采用悬灸方式，每次30分

钟，通过针灸和艾灸神阙穴（CV8）穴位，调和气血、疏

通经络，促进月经血的排出。经过10次一个疗程的治疗，患者的月经周期和质量显著改善，相关症

状明显减轻。

案例3: 使用神阙穴（CV8）针灸治疗痛经

患者：白人女性，27岁

主要症状：月经前后严重腹痛，持续3-5天，伴有头痛和腰酸。症状持续一年以上，对中西医药治疗

效果不佳。脉沉涩，舌暗淡有紫色斑点。中医诊断表明经络气滞、血瘀。

治疗方案：月经前后进行神阙穴（CV8）针灸治疗。病人采用仰卧位，取一次性毫针

30mmx0.22

，穴位消毒后以神阙为中心向从三个方向45度角度进针，轻微手法刺激后留针30分钟。采用适当

的刺激技术针对神阙穴（CV8）穴位，调和气血、疏通经络，促进受影响区域的恢复。经过2个月12

次治疗，患者腹痛明显减轻，头痛和腰酸症状缓解，月经周期也得到改善。

这些病例的详细介绍说明了神阙穴（CV8）针灸在治疗妇科疾病中的显著疗效。神阙穴（CV8）作为

一个关键的经络穴位，在调节气血、促进受影响区域恢复方面发挥着独特作用。然而，需要注意的

是，每位患者的体质和病情各不相同，因此在使用神阙穴（CV8）针灸治疗妇科疾病时需要制定个

性化的治疗方案。总之，神阙穴（CV8）针灸在妇科疾病治疗中显示出了积极的有效性。然而，由于

研究的限制和病例数量不足，进一步探索和应用神阙穴（CV8）针灸在妇科领域仍然至关重要。

结论：

综上所述，神阙穴位（CV8）的针灸疗法在临床应用中显示出了良好的治疗潜力，并具有良好的安

全性。然而，需要进行更多高质量的临床研究来验证其疗效，并阐明其作用机制，从而提高临床指

导水平。总的来说，现代临床研究对神阙穴位的重新评估挑战了传统的禁针观念，并突显了其积极的治疗效果，为其在传统中医学中的应用提供了新的见解。

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脾胃理论与老年糖尿病探析

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摘要：随着我国老龄化的加剧，老年糖尿病的患病率明显增高，中医在防治老年糖尿病方面逐渐凸显优势，特别是从脾胃论治老年糖尿病具有显著疗效。脾胃是糖尿病发病的重要脏腑，经典名方是至今仍广泛应用、疗效确切、具有明显特色与优势的古代中医典籍所记载的方剂，基于脾胃理论指导下的经典名方在老年糖尿病治疗中被广泛应用。本文从脾胃与老年糖尿病的病因病机联系和脾胃经典名方治疗老年糖尿病临床进展作简要论述，为老年糖尿病的研究和防治提供一定的参考。

关键词：脾胃理论；老年消渴；病因病机；经典名方

Spleen and stomach theory and thirst quenching in old age

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Abstract: Abstract: With the aggravation of aging in our country, the prevalence rate of elderly diabetes mellitus has obviously increased. Traditional Chinese medicine has gradually highlighted its advantage in the prevention and treatment of elderly diabetes mellitus, especially in the treatment of elderly diabetes mellitus from the spleen and stomach. The spleen and stomach are important organs for the pathogenesis of diabetes mellitus in the elderly. The classic famous prescription is a prescription recorded in ancient Traditional Chinese medicine books which is still widely used today with accurate curative effect and obvious characteristics and advantages. The classic famous prescription based on the theory of the spleen and stomach has been widely used in the treatment of elderly diabetes. In this paper, the etiology and pathogenesis of the spleen and stomach and the clinical progress of the classic prescription of the spleen and stomach in the treatment of elderly diabetes were briefly reviewed, to provide references for the research and prevention of elderly diabetes.

Key words: spleen and stomach theory; Quenching thirst in old age; Etiology and pathogenesis; Classic famous formula

糖尿病属中医学“消渴”、“脾瘅”等疾病范畴，是一种以高血糖为病理标志的慢性代谢性疾病。随着老龄化的加剧，老年人群中糖尿病的患病率呈现显著增高趋势，老年糖尿病(elderly diabetes mellitus, EDM)患者已成为糖尿病的主流人群，临床上对年龄 ≥ 65 岁的糖尿病患者诊断为老年糖尿病，中医学上称之为“老年消渴”。《中国老年糖尿病诊疗指南》显示，中国罹患糖尿病的老年人数约为 3550 万，居世界首位，占全球老年糖尿病患者 1/4，且呈现上升态势[1]。老年糖尿病患者或在老年期前已患病，

伴随衰老而病情加剧，或在老年期患病，逐渐发展变化，但均呈现虚弱、衰老的生理特点，疾病复杂性、多样性和严重性较一般糖尿病更甚。

脾胃为后天之本，是气血生化之源，脾胃衰，则气血生化不足，脏腑组织器官失养，功能低下，代谢失常，致使或促进衰老发生发展。金朝李东垣《脾胃论·脾胃虚则九窍不通论》云：

“凡有此(脾胃)病者，虽不易变生它疾，已损天年。”，倡导脾胃致衰学说。脾为后天之本，主运化水谷精微，能布达精微和水液，以濡养脏腑经络四肢百骸。“饮入于胃，游溢精气，上输于脾，脾气散精，上归于肺，通调水道，下输膀

胱。水精四布，五经并行，合于四时五脏阴阳，揆度以为常也。”详细阐释了津液和能量代谢的全过程，成为后世解释消化系统、内分泌系统、泌尿系统、呼吸系统生理病理的基础，人的津液代谢、能量代谢的起始阶段和中间环节与脾胃功能密切相关，为从脾胃论治多系统疾病提供了理论支撑。脾为太阴之脏，胃为阳明之腑，脾胃是消渴发病的重要器官，脾胃升降失常为消渴病的重要环节[2]。老年群体脾胃运化减退，运化水谷无力，精微化生乏源，《素问·太阴阳明论篇》云：“四肢不得禀水谷气，气日以衰，脉道不利，筋骨肌肉皆无气以生”，脾虚致消，消渴为患。“脾胃致衰”与“脾胃致消”两种学术观点为从脾胃论治老年消渴奠定了理论基础。本文将围绕脾胃理论探讨老年消渴的病因病机与方药针灸应用，为老年消渴的研究和防治提供一定的参考。

1 脾胃为老年糖尿病发病之关键

脾胃人体气机升降之枢，二者升降相协互为表里，脾胃升降得宜，则中焦气机顺畅，出入有序，生化有源。胃主受纳，以降为顺，以通为用，不降则滞，反升则逆。脾为胃之使，主运化，以升为顺，以运为贵，不升则滞，反降则陷，升降反常，则传化失司，出入失和，气机紊乱，脾胃升降失和是消渴发生的关键要素。《内经》有云，“脾胃者，仓廪之官，五味出焉”。

“脾为胃行其津液”，胃为水谷之海，水谷于胃

腐熟，依赖上行的脾气，纳入的食物和水液化生为人体的精微物质（后天精气），转输至五脏六腑以供养全身。脾气与胃气一升一降，使体内气机平衡，生机不息。脾气失升，则转输水谷精微、津液功能发生障碍，壅滞化热，精微不达，脏腑失濡，转为消渴。胃气不降，则水谷腐熟、下达不利，造成燥热在上，气机失和，也会导致老年糖尿病发生。

脾胃同居中焦，联通上下，气血生化之源，中焦脾胃运化无权被认为是消渴病的核心病机。《医学衷中参西录·医方·滋脾饮》中提到，“消渴之证，古有上、中、下之分，谓其证皆起于中焦而极于上下”。水谷精微通过胃腑运化生成津液，上输于脾，通过脾的散精作用上归于肺，再经肺的气化布散全身。在病态下，中焦脾胃运化无权，能量代谢异常，就会产生各种代谢性疾病或痰饮湿浊等。老年消渴多是以长期饮食不节，过食肥甘厚腻为病因，其胃腑负担过重，运化不及后累及脾，脾气难以上行推动水谷精微输布，胃气难以下行推动滓秽运往小肠，其气上溢，积聚于脾胃，运化失职表现逐渐明显，水谷精微不完全为利用，导致血中精微过剩，造成血糖升高，进而出现消渴，故《脾胃论》中指出，“饮食不节，则胃先病，脾无所禀而后病”，强调“胃为主，脾为从”[3]。胰岛素抵抗是糖尿病常见的发病机制，造成胰岛素抵抗主要脏腑在脾（胃），中医藏象学说中的“脾”作为

解剖学单位就是现代解剖学中的脾和胰，胰岛素抵抗与脾不正化，运化失司，酿生痰浊、水饮、瘀血、浊毒等密切相关。

精微物质是人自出生以后维持生命活动所需营养物质的主要来源，是人体气血化生的物质基础，高血糖状态是人身精微物质变为病理产物的一种状态，参考其消耗性、损伤性的特点，属阳邪范畴，从阳化火^[4]。老年消渴属热病中阴虚内热病证范畴。《素问·奇病论篇》载：“肥者令人内热，甘者令人中满，故其气上溢，转为消瘴”，指出消渴内热为患的病机特点^[5]。凡脾胃之有热，其证候多表现在胃，以其胃属六腑，其性为阳是也。胃以和降为顺，热乃火之气，火性上炎，热则气上而胃气不能和降。中焦有热，摄入谷食消耗加快，人易饥饿从而多食，食多壅热，则形成恶性循环，形成三焦郁热的状态。中焦热气则多食，上焦郁热从而多饮，下焦郁热从而多尿，《素问·痿论》有：“脾主身之肌肉”，脾虚无法化生精微，周身肌肉失去营养，而表现为消瘦，进而形成“三多一少”临床表现。脾阴，是指水谷所化生的营血、阴液、脂膏之类精微物质，当胃中有热，灼伤脾阴，脾阴不足，则阴阳失和，脾阳盛而化热。

关于消渴病因病机的论述最早见于《黄帝内经》。《黄帝内经》认为，“五脏皆柔弱”是消渴的核心病机。老年人由于五脏功能衰退，易出现脏腑失衡，逐渐发展为阴阳失调，阴损阳亏，

最易发病消渴。脾胃为脏腑之本，张景岳指出：“盖以脾胃为脏腑之本，而十二经皆以受气者也”，以各脏腑禀气于脾胃，荣养于脾胃化生之水谷精微也，故而“四时五脏皆不可一日无土气也”（《医经原旨》）。《脾胃论·脾胃虚实传变论》云：“脾胃一伤，五乱互作”，指出脾胃之伤，祸起之源，其五乱引申为五脏之乱，可明脾胃虚弱，五脏受病之理。脾胃为病，则五脏柔弱，发为消渴疾患。

2 脾胃经典名方在老年消渴中的应用

古代经典名方是指至今仍广泛运用、疗效确切、具有明显特色与优势的古代中医典籍所记载的方剂。大量以脾胃理论为指导思想的经典名方在治疗老年消渴中应用广泛、优势突出，具有较高的临床价值和学术意义。

白虎加人参汤载于《伤寒论》第 26 条、168 条、169 条和 170 条，以及《金匱要略·痉湿喝病脉证第二》，2023 年收录于《古代经典名方目录（第二批）——汉族医药》。全方由石膏、知母、人参、甘草、粳米组成，具有清热，益气，生津的功效，以清养脾胃肺为要，是治疗糖尿病的主方，在糖尿病及其并发症中被广泛应用，白虎加人参汤适用的糖尿病证型包括燥热津亏证、火热炽盛证、肺胃热盛，气阴两伤证、肺胃热盛，津气两伤证、阳明热盛，阴分耗伤证、肺胃热炽，耗损气阴证、热盛津伤证、胃热津伤气阴不足证等，均是由燥热、火热、肺胃

热等不同程度的热证导致气阴津伤而成^[6]。早在上世纪 90 年代，一项纳入 92 例老年糖尿病患者临床研究证实，白虎加人参汤治疗老年糖尿病总有效率达 79%^[7]。一项纳入 1061 例受试者的 Meta 分析显示，白虎加人参汤可有效缓解 2 型糖尿病症状，有效改善糖化血红蛋白、空腹血糖和餐后 2 小时血糖的生化指标，且在亚组分析中显示，白虎加人参汤对改善气阴两虚型消渴症具有显著优势^[8]。动物实验证实，白虎加人参汤可有效改善骨骼肌特异性胰岛素样生长因子-1 受体功能缺失小鼠模型的消渴症状，且小鼠的血清炎症因子及 LPS 含量显著下降，肠道紧密连接蛋白的蛋白表达上调^[9]，提示了白虎加人参汤抗炎降糖的作用机制。此外，白虎加人参汤可通过降低氧化应激水平，升高超氧化物歧化酶 SOD 及相关酶活性，有效改善细胞凋亡水平和细胞胰岛素分泌^[10]。

玉液汤出自《医学衷中参西录·医方·治消渴方》，由山药、黄芪、五味子、鸡内金、知母、天花粉和葛根组成。张锡纯明确消渴病位重在中焦，治法以补气升举、滋阴润燥为主，故立玉液汤一方，《医学衷中参西录》中描述道“消渴之证，多由于元气不升，此方乃升元气以止渴者也”，气阴两虚作为糖尿病的主要病因病机之

一，临床根据此病机运用玉液汤治疗糖尿病及合并症有独特优势，临床疗效显著且安全性较高^[11]。临床研究证实，运用玉液汤加减治疗老年 2 型糖尿病，治疗总有效率可达 91.43%^[12]。陈澈等利用整合药理学方法探究玉液汤治疗 2 型糖尿病的作用机制，研究发现五味子、黄芪和山药是玉液汤中发挥药效的关键成分，改善机制与胰岛素信号传导、脂肪细胞中葡萄糖转运、胰岛素抵抗密切相关^[13]。

黄芪葛根汤出自《证治汇补》，由黄芪、葛根二药组成，具有益气健脾，滋阴清热，生津止渴的功效，在糖尿病动脉粥样硬化、糖尿病心脏病、2 型糖尿病合并高脂血症等的治疗中具有显著作用，尤其适用于气阴两虚、痰瘀阻络证型。大量研究发现黄芪葛根汤可明显改善老年糖尿病患者的临床症状，调节病理机制，一项纳入 120 例老年糖尿病患者的临床研究显示，黄芪葛根汤加味可明显改善老年糖尿病患者的临床症状和胰岛素抵抗情况，临床疗效总有效率达 95.0%^[14]。另一项纳入 100 例患糖尿病老年患者的临床研究证实，黄芪葛根汤结合中医辨证治疗，能够有效控制老年糖尿病患者病情，缓解糖尿病病症反应，管控疾病影响，疾病治疗作用显著^[15]。

附子理中汤组成由理中汤的基础上加炮附子。理中丸（汤）出自《伤寒论》277 条载：“自利不渴，属太阴，以其脏有寒故也，当温之，宜服四逆辈”。消渴之阳虚而言，临床以脾肾阳虚为主。汪绮石提出：“补命火者不如补脾以建中。”脾为后天之本，脾气可资助肾阳，补脾益气，脾肾同治。“先天生后天，后天济先天”使得气血生化有源，且任何补益药均须经过脾胃运化才能达到补益疗效，故消渴阳虚者治宜健脾益气，脾气健旺则精血化生之火有所依^[16]。干姜辛热，主入中焦，能温补中焦太阴脾脏；人参甘微温，补气要药，补益脾胃之气；白术苦而甘温，取其健脾燥湿之功；炙甘草甘温补中以缓急，兼和诸药，又添附子，辛甘大热，“回阳救逆第一要药”，补助阳气以温脾土，于糖尿病气阳两虚证最为适宜。网络药理学机制分析证实，附子理中汤可能以有效成分槲皮素、山柰酚和 β -谷甾醇通过调控上述靶点、通路起到改善胰岛素抵抗、调节脂代谢、降低血糖及预防并发症的作用^[17]。一项纳入 23 例 2 型糖尿病患者的临床研究证实，予附子理中汤加减治疗糖尿病总有效率为 91.3%^[18]。《素问·生气通天论》曰：“阳气者，若天与日”，脾阳失煦，就会导致脾之阳气亦虚，从而影响其运化水谷的功能，引起一系列脾失健运、化源不足的病证，进而导致早衰，缩短寿命。中国科学院院士仝小林于《老年糖尿病的辨治经验及要点》一文中，

提到糖尿病胃轻瘫呕吐重症，主要是中焦大虚寒，中阳衰微所致，需急救回阳，挽存胃气，故以附子理中汤主治之^[19]。附子理中汤在老年糖尿病中既符合阳虚致衰病机，又适用于脾胃阳虚的消渴病情，临床优势显著。

3 总结

老年糖尿病病变是一个多步骤、多环节的复杂过程，中医通过其整体观的原则在治疗此现代疾病有着不可替代的疗效。因脾胃在老年糖尿病的发生发展中至关重要，脾胃为气血化源之根本，营卫相得之基础。补益脾胃可使纳化正常，促进营卫循行，充实后天之精，延缓衰老，强壮体魄；使脾升胃降有序，阴阳协调，燥湿得以正常运化，从而改善胰岛素抵抗等糖尿病症状。脾胃升降失常、运化失常和化热壅滞为消渴病的重要环节，且在老年患者中，脾胃虚弱，进一步加重脏腑失衡，影响周身脏腑的正常运转，迁延缠绵，瘤结变化，最易产生并发症。现代医家基于脾胃理论进行了大量的临床研究，其中以白虎加人参汤、玉液汤、黄芪葛根汤等 4 首中医经典方剂应用最为广泛，最具代表性。以脾胃功能调理为切入点，治疗老年糖尿病，从经典名方中汲取经验，结合现代科学技术，传承创新发展具有重要意义。

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新安针灸流派学术特点和方穴特色概述

胡玲¹ 巩昌镇²

【摘要】：新安针灸学派起源于中国古代的新安江地区，自晋唐时期开始，至明清达到鼎盛。该学派深受《黄帝内经》与《难经》的影响，医家们在临床实践中不断创新，形成了一套独特的理论与实践体系。本文首先概述了新安针灸的历史背景及其学术影响，继而详细讨论了该学派的针灸理论与方法，尤其关注其在方穴选择和治疗技巧上的特点。本文还特别提到了金针梅花派的贡献，其作为新安针灸流派的一部分，也展示了该学派在针灸方面的深度与广度。新安针灸学派的代表性医家如汪石山和徐春甫等，他们的作品和实践不仅丰富了中医针灸的理论体系，也为后世的医学发展提供了宝贵的经验和知识。此外，该文通过探讨新安医家的针药一理、针灸并施的治疗方法，展现了其在传统与创新中寻求平衡的努力，为中医针灸的现代化发展提供了有力的理论支撑。

【关键词】：新安医学；针灸；历史影响；治疗体系；国际影响力；理法方穴术 新安医学发源于美丽的新安江畔，肇始于晋唐，鼎盛于明清。新安境内峰峦叠嶂，山清水秀，人杰地灵，古往今来，文风昌盛，名贤辈出。新安医学已经成为中国传统医学中文化底蕴深厚、流派色彩明显、学术成就突出、历史影响深远的重要研究领域。在新安医学流派中，针灸医学也展现出独特的魅力和优势。

2017 年秋美国中医学院校长巩昌镇博士应彭代银校长邀来安徽中医药大学讲学，盛赞新安医学为中国传统中医和针灸做出的贡献，随后建群与安徽中医药大学同道讨论新安医学的海外传播。最近我们荣幸共同探讨新安针灸学派的理法方穴术。然而，新安医学为地域性流派，新安医家涉猎广博，其针灸学术观点不尽相同，或重视针法，或重视灸法，或针药兼通，或针推药并举，较难提炼出完全一致的针灸辨证施治体系[1-8]。尽管如此，我们把最近讨论的结果整理成此文。需要说明的是由周树冬创建的金针梅花派[9]虽然从地域上不属于新安江畔，但广义上

也是新安针灸流派的一部分，专家们有此基本共识。本文将金针梅花派也包含在讨论的范围之内。

现就新安针灸代表性医家的针灸学术观点和选穴施术特色概述如下：

一、新安医家针灸学术观点

1. 崇尚《内》《难》，融会新知，有所创新

《黄帝内经》不但是一部中医经典著作，而且标志着针灸系统理论的形成。因此，后世针灸医家无不以《内经》作为学习、研究之圭臬。新安医家也不例外，研习著书、临证治疗皆宗《内经》、《难经》。唐代医家杨玄操，是训诂大家，曾任新安歙州县尉，著有：《黄帝八十一难经注》、《素问释音》、《针经音》、《撰注黄帝明堂经》、《明堂音义》等。他高度评价《内经》《难经》的价值：“按黄帝有内经二帙，帙各九卷而其义幽赜，殆难穷览。越人乃采摘英华，抄撮精要，二部经内凡八十一章，勒成卷轴，伸演其道。探微索隐，传示后昆。名为八十一难，以其理趣深远，非卒易了故也”（《难经集注·序》）。

明代新安医家代表人物汪石山“凡岐黄仓扁之诸遗书，靡不探其旨紫”，在其所著针灸专著《针灸问对》中明确提出：“《素》、《难》所论，刺法之正也”。他在《针灸问对》开篇中提到：“《内经》治病，汤液醪醴为甚少，所载服饵之法才一二，而灸者四五，其他则明针法无虑十八九。”明确提出针灸医学也必须本于《内经》和《难经》。他所著的《针灸问对》一书，大多依据《素问》、《灵枢》和《难经》，对针灸理论进行阐发或依据经典对诸家之说进行评述，对后世颇有启迪。在《外科理例》中，也大量引用《内经》。徐春甫是明代另一位新安著名医家。其代表性著作《古今医统大全》为我国古代十大医学全书之一，内容涉及广泛。其中卷六《经穴发明》、卷七《针灸直指》专论针灸与经穴。他尊《内经》为万世医家之祖，主张学医须溯本探源，接轩岐之正脉，在《古今医统大全·序》中指出：“医之精髓奥窍，《内经》一书备之……譬诸峙者皆山，而泰岳则其宗也；流者皆水，而沧溟则其元也”，学医应“明《内经》之旨，正炎黄之统，使轩岐问答千古如

存”。明代吴崑，通晓针灸方药，所著《针方六集》，是一部集古代针灸之大成的丛书。他认为针灸欲精其道须时时探究《灵》、《素》，潜心钻研。他在《针方六集·序》中写到：“自束发修儒，游心《灵》、《素》，诸砭焮针经，皆时探究”。《针方六集》集古代针灸之大成，理论深邃，内容丰富。该书第三卷专列“尊经集”，将《灵枢》、《素问》、《难经》中针灸学术思想择其要者，分类陈述。尊经集首列《灵枢·九针》，在陈述九针的形状、功用后，吴氏指出：“上九针主治，《灵枢》之训也。用之各尽其妙，古今何异焉。所云毫针，又名小针，取用易多，犹布帛菽粟为日用之所急也。其见于《素》、《难》、《针经》神妙之旨，并述后方。”

新安名医汪昂，跨越明清两代。他自幼苦读经书，“经史百家，靡不殚究”，约 30 岁时弃儒从医。他指出《内经》“理至渊深，包举弘博”，为医家必宗之经典，特别推崇《灵枢·经脉》篇对经络学说的指导意义，明确指出“《灵枢·经脉》一篇，为证治之纲领”。清代新安医家吴亦鼎在《神灸经纶》引言中也指出：“夫针灸由来久矣，《灵枢》为针灸之宗本。”由上可知，新安医家的针灸学术思想皆本于《内经》和《难经》。

新安医家虽尊崇《内》、《难》之说，但师古而不泥古，博采众长，有所创新。如汪机指出：“《灵枢》第一篇，针之大经大法，不可不读也。”但书中缺误不可不知，不能不辨。“此上古之书，传写已久，其中多有缺误。”告诫后学针家，不可墨守成规，株守一家见解，“当知圆机活法，不可守经无权，与夫邪正之所当别，虚实之所当知，补泻之所当审，皆针家之要务”（《针灸问对·卷之上·59 问》）。徐春甫也指出，在学习内经的同时，应“综博千古，参伍

诸家，旁搜曲证……会百家之异同”，如此才能务穷其理，不为旧说所囿，以融会贯通，去粗取精，去伪存真，为今世所用。《古今医统大全·针灸直指》对古代针灸的核心内容进行精选，并结合自身经验，对中风、伤寒、杂病等 78 种证候和病证的针灸疗法进行介绍，治疗取穴有所创新。

周树冬的《金针梅花诗钞》被认为是针刺手法的经典著作，无论是对古典手法的阐释，还是梅花派的创新，都是根植于《内经》，并对其做出了创造性的延续和发展。《诗钞》的《刺法》章开篇以“持针入肉各有方，说出《官针》法最详：十二经有十二节。五脏五刺细衡量，九刺用以应九变，缪刺《素问》有专章。散刺后人遵古说，二十八法勿相忘”拉开了阐述九刺、十二节刺、五刺、缪刺、散刺的梅花乐章。“粗守形兮上守神，神形合一乃存针，持针考穴虽当重，气血阴阳实独尊”与《灵枢·小针解篇》“粗守形者，守刺法也。上守神者，守人身之气血，有余、不足可补、泻也”一脉相承。从《素问·保命全形论》“一曰治神，二曰知养身，三曰知毒药为真，四曰制砭石大小，五曰知脏腑气血之诊”“凡刺之真，必先治神”到“能治神者可治针，治神之要在修身，识得玄微通造化，全形保命刺方针”是古典针灸的薪火相传。

2. 针药一理，针灸并施，针医汇通

针灸与药物均是中医治疗的重要手段，自古以来，一些医家就提出针药互补或针药并用。如在西汉淳于意的《诊籍》中就有针药并用的记载。唐代孙思邈在《千金要方》中明确提出“若针而不灸，灸而不针，皆非良医也；针灸而不药，药而不针灸，尤非良医也”的针、灸、药并重的主张。明代杨继洲也主张针药兼得，在《针灸大成·诸家得失篇》中提出“药与针灸，不可缺一者也”。

新安医家在长期的临床实践中充分认识到针药的互补性，强调针药同理，针药配合，才能在临证中左右逢源。如吴崑在深入研究《内经》的基础上，通过“以药明针”的比较方法，提出应根据不同病证分别选用药物、针刺疗法或针药并施；并在《针方六集·旁通集》中系统地阐发了“针药二途，理无二致”的观点，指出药物、针刺异途而同理，分别从审气、保元、方药配伍、炮炙与穴位配合、取法和刺法，用药剂型与用针刺法，用方大小与取穴多少，针刺手法与方药作用等方面进行了比较，阐明分析针药同理之说；同时还提出，既然针药治病同理，在临证时就可以根据疾病的具体情况，结合针药之长短，当针则针，当药则药，当针药配合则针药兼施，辨证论治。吴崑还在《针方六集》卷二的《八法针方》、卷四的《揆八法》中，总结出针药兼施的范例。如对于冲脉、足太阴脾经、阴维脉、足阳明胃经和手厥阴心包经的病证，宜刺公孙、内关二穴，使经气通行，三焦快然，疾去内和，并可配用泻心、凉膈、大小陷胸、调胃承气诸方治疗。对于带脉、足少阳胆经、阳维脉和手少阳三焦经的病证，宜刺足临泣、外关二穴，使表里皆和，营卫流畅，并可配用三化、双解、大小柴胡、通圣、温胆诸方治疗。“针药无二致”学说对于临床合理施针用药，具有一定的指导作用。针药兼施提高了临床疗效，此法受到今人的推崇和沿用。吴亦鼎尚著有《麻疹备药方论》一书，针药并擅，济世活人，亦体现出其针药一理的学术思想。

很多新安医家都是既精于针灸，又通于方药，他们不仅在针灸方面有高深的医术，而且临证用药经验丰富，同时学术见解高超。如汪机虽宗丹溪之学，但并不拘泥。当时医家多囿于朱丹溪“阳常有余，阴常不足”之说，认为但凡疾病均属阴虚，妄投滋阴降火之剂，而对于甘温助阳之品，则不敢应用，造成重阴轻阳的局面。汪石

山惩偏救弊，认为治病须实事求是，虚则补之，实则泻之；特作“营卫论”，倡卫有余营不足，卫有余而不待于补，营不足则以参、芪补之。在外科治疗方面，他提出“知乎内以求乎外”

（《外科理例·前序》），指出疮疡痈疽外科病虽然表现在外，但治疗应以内治为主，外治为辅；并明确提出外科临床三大治法：托里、疏通、和营卫。在临床用药方面指出应随证变通，不可拘泥。汪氏不仅精通医药，且擅长针灸，尤擅用灸法治疗痈疽，在《外科理例》中记载了很多灸治疮疡的验案。

徐春甫推崇李东垣的《脾胃论》，谓其叙述“极其精详……是诚医道之大幸也”。认为人的生命虽起源于父母先天之精，但人的生长发育、繁殖却依赖后天水谷精微物质，故主张顾护中州，健运脾胃，善用参芪，参芪不仅补脾益气，且能养阴生血。徐氏还将参芪用于妇科疾病，在崩漏门中指出“中年以上之人，及高年嫠妇，多是忧思过度，气血俱虚……必须大补气血”，认为“养脾升胃固血乃其大法”（《古今医统大全·妇科心镜》）。在针灸方面，徐氏倡针药结合、针灸并施。他指出：“针灸用药因病而施治者，医之良也。”在《古今医统大全》中列专卷论针灸。

《金针梅花诗钞》强调针灸并用，“凡背部诸穴，宜多灸，针亦可稍深。”对于历代针灸经典著作提出的诸多穴位不可灸，或者医学著作中存在的可灸不可灸的争论和混乱，《金针梅花诗钞》列表做出详细的澄清和评判，例如，少商穴，《铜人》记载不能灸，《甲乙》可灸，《金针梅花诗钞》认为可灸；阴陵泉穴，《铜人》、《入门》不可灸，《甲乙》、《集成》可灸，《金针梅花诗钞》认为可灸；脊中穴，《甲乙》等认为不可灸，《金针梅花诗钞》认为可灸；头维穴，多部医籍认为不可灸，《金针梅花诗钞》

也认为不可灸，以免毛发不生。古人说的“不可灸”，应是不能采用瘢痕灸。

二、新安医家针灸诊治方法

前已述及新安医家针灸学术观点主要源于《内经》和《难经》。但在此基础上又“综博千古，参伍诸家”，融会新知，开拓创新。其针灸诊治大法主要可概括为以下几方面：

1. 切脉观色，医之大要

《灵枢·本脏》言：“视其外应，以知内脏，则知所病矣。”人体是一个有机整体，五脏藏精气于内，开窍于五官，从人体表现于外的生理病理现象，可以揣测五脏六腑的变化。《灵枢·邪气脏腑病形》亦指出：“夫色脉与尺之相应也，如桴鼓影响之相应也，不得相失也……色脉形肉，不得相失也。”《灵枢·九针十二原》明确指出：“凡将用针，必先诊脉，视气之剧易，乃可以治也。”新安医家在临床实践中强调针灸亦应注重切脉观色察形，必须通过诊脉判断气之顺逆，辨别疾病在经在络，方可施治。汪石山在《针灸问对·序》中强调：“《素》、《难》所论针灸，必须察脉以审其病在经在络”。他认为“切脉观色，医之大要”，而“今之针士，置而弗论，此刺法所以不古”，因而强调医家首先必须诊察病证，不能妄行针刺，只有“察脉盛衰，以知病在何经，乃可随病以施针刺也”。如果脉象表现为实证，则用泻法，脉象表现为虚证，则用补法：“脉实而疾，则深刺以泻；脉虚而徐，则浅刺以补”（《针灸问对·卷之上》）；对“既不识脉，又不察形，但问何病，便针何穴”者予以批评。告诫后世医家，实践中须重视切脉观色，方能减少失误。汪昂也认为：医学之要，莫先于切脉，脉候不真，则虚实莫辨，攻补妄施，鲜不夭人寿命者。

清代医家余懋，著有《推拿述略》。他擅长小儿推拿，在诊治小儿病时强调切脉诊病，以判断病证之吉凶。如《推拿述略》中说：“解溪穴在足趺上高骨间之动脉陷中，此足阳明胃脉也。大敦穴在足踝后高骨上之动脉陷中，此足厥阴肝脉也。肝乃东方木，为发生之本，胃乃中央土，为资生之源，如此二脉未绝，病证虽险尚有生机……凡乳子此二脉尤重，手足均当同切，则证之吉凶亦莫不判然矣。”从而提醒启发后学，医家无论针药治病，都应做到望、闻、问、切四诊合参，全面掌握推拿灸药各种方法，方能收到良好效果。

2. 用针如用兵 审经络调气血

南宋词人李曾伯曾写诗云：“用药如用兵，命医犹命将。医良则身安，将良则师壮。”此后，清代名医徐大椿在其医著《医学源流论》中专论“用药如用兵”。其实针灸又何尝不是“用针如用兵”。汪机在《针灸问对》中指出：“邪客于人，与正周流上下，或在气分，或在血分，无有定止，故喻用针正如用兵，彼动则此应。”用兵要知己知彼，根据不同情况排兵布阵，针灸也应根据不同病情选穴处方。因此汪机认为针灸临床不能固守某穴治某病，而应该随机应变，

“审经与络，分血与气”。即针刺时应先分气分病、血分病的不同而采用不同的治法。气分病多游行不定，治疗当“或在上，下取之，或在下，上取之；或正取之，或直取之。”。血分病多沉着不移，治疗应“随其血之所在，应病取之”。同时要学会变通，“病变无穷，灸刺之法亦无穷”，强调“经络不可不知，孔穴不可不认，不知经络，无以知气血往来，不知孔穴，无以知邪气所在，知而用，用而的，病乃可安”。因而针灸临床治病没有定穴，或出以奇，或守以正。

“病随经所在，穴随经而取，庶得随机应变之理”。（《针灸问对·卷之上》）

吴崑也指出：“针药犹兵”。“药有小方，不足以去病，故立重方……针有特刺不足以去病，故主群刺。群刺者，别、络、根、结，合而刺之也。此犹守郊关严险隘，穷搜大索之兵也。”指出对于疑难杂症，可用多个穴位配合取胜。他也提出用针必须审气，主要审三气：“经气、邪气、谷气”。“病态千端，候气施治”，“针家必审而调之”。徐春甫给了相似的比喻：“治病犹对垒。攻守奇正，量敌而应者，将之良；针灸用药因病而施治者，医之良也。”（《古今医统大全》）

周树冬《金针梅花诗钞》段落里、诗句里包含着大量的针刺原则、针刺方法。在八纲条析的《以阴为纲各症配穴法》里，里症的治疗方法有“开郁散结，宁神安眠”法、“宽中消胀，降逆止呕”法；寒症的治疗方法有“行滞逐冷，益火理中”法、“温中固脱，救逆回阳”法；虚症的治疗方法有“理痹摄血，降气平喘”法、“固本培元，补血益气”法。在八纲条析的《以阳为纲各症配穴法》里，表症的治疗方法有“解肌发汗，祛风散寒”法、“搜风行血，活络舒筋”法；热症的治疗方法有“泄热除烦、生津止渴”法、“开窍通闭，熄风镇惊”法；实证的治疗方法有“行水利湿，化浊通幽”法、“祛痰降气，破积功艰”法。

三、新安医家针灸处方选穴举隅

吴崑指出“穴有阴阳配合，则君臣佐使也”。新安医家的针灸处方很多，难以系统陈述，下面选代表性针灸处方选穴予以介绍。

1. 王国瑞《玉龙经》中的针灸处方

元代医家王国瑞著《扁鹊神应针灸玉龙经》。该书总结的针灸处方理论，是针灸处方学发展史上的一座里程碑。对针灸腧穴配伍具备了较为完整的体系，为后世针灸临床处方学的总体结构、分类及论述体例等方面奠定了基础。其记

载了 120 个穴位，约 80 多个针灸处方，对许多常见病都给予了具体而明确的针灸治疗方案。如《扁鹊神应针灸玉龙经·一百二十穴玉龙歌·气喘》所载：“气喘吁吁不得眠，何当日夜苦相煎；若取璇玑真个妙，更针气海保安康”。璇玑在天突下一寸，直针入三分，泻之，灸七壮。气海在脐下一寸五分宛宛中，刺入三分，灸七壮，看病补泻。该处方有穴位，有定位，有处方配伍，也有针灸补泻方法。上下配伍，符合《内经》“吸气在肺，纳气在肾”的理论。还有气喘“急则治其标”的配方，如：“哮喘一证最难当，夜间无睡气惶惶；天突寻得真穴在，膻中一灸便安康。”天突在结喉陷中，针可斜下半寸，灸七壮，泻之。膻中在两乳中间，可泻，灸七壮，禁针。这也是同名经配穴，天突化痰平喘，膻中宽胸理气。再如头项强痛的治疗：“项强兼头四顾难，牙疼并作不能宽；先向承浆明补泻，后针风府即时安。”承浆在唇下宛宛中，直针三分，可灸七壮，泻之。风府在项后入发际一寸，两筋间，言语则起，不言语则陷下处是穴，针三分，不可深，深则令人哑噤。该处方前后任督脉配伍，通调阴阳二经，使配方形式达到了较为完善的阶段。中风昏迷的针灸处方《玉龙歌》中也有记载：“中风不语最难医，顶门发际亦堪施；百会穴中明补泻，实时苏醒免灾危。”四句吟唱概括了中风昏迷的醒脑开窍手法：顶门即囟会穴，上星后一寸，禁不可刺，灸七壮。百会位于顶中央旋毛中，取眉间印堂至发际折中是穴，针一分许。中风，先补后泻，多补少泻，灸七壮，无补。该处方先应用灸法和针补引气血上行灌注元神之府，再用泻法以化瘀，醒脑开窍手法之精妙可见一斑。总之，《扁鹊神应针灸玉龙经》中的针灸处方按病种分类，配伍选穴有远、近、前、后、上、下搭配，有针有灸或针灸并用，对针灸临床有重要指导意义。《玉龙歌》后

还附有《穴法歌》，记载“穴法相应三十七穴”，均为临床常用且有效的 37 组穴，大多为对穴，同样对临床有重要价值。

2. 王国瑞的按时取穴法

王国瑞发展了窦汉卿的子午流注理论，并结合自己的经验，对按时取穴法有所创新。他创立了飞腾八法和十二经原（络）夫妇配合按时取穴法。飞腾八法又称奇经纳干法，是在窦汉卿“流注八穴”的基础上发展而来。飞腾八法的运用需要掌握天干与八脉交会穴、八卦的对应关系，即用流注八穴配八卦合九宫数逐日按时推算开穴的一种方法，如“甲己子午九，乙更丑未八，丙辛寅申七……”强调针刺治病应按时取穴，灵活多变，为八脉交会穴的应用开创了一条新途径，对后世运用流注八穴的理论按时选穴，产生了较深远的影响。其运用时应牢记飞腾八法歌：壬甲公孙乃是乾，丙居艮上内关然，戊为临泣生坎水，庚属外关震相连，辛上后溪装巽卦，乙癸申脉到坤传，己土列缺南离上，丁居照海兑金全。例如：本日天干是甲或是乙，按“五虎建元”法推算，即是“甲乙之日起丙寅”，丙寅应取内关穴，因丙配艮卦内关（其他如丙申、丙戌、丙子、丙辰、丙午皆同）。其他如戊辰时取临泣，己巳时取列缺等，均同此例，还可以按照八脉交会穴配伍的方法，同时开取上下两穴。王氏的“飞腾八法”是明代灵龟八法的先驱。明代徐凤《针灸大全》中的“灵龟取法飞腾针图”是受王氏“飞腾八法”之启发而创制出来的。明代高武《针灸聚英》也收有“八法飞腾定十干八卦法”。十二经原（络）夫妇配合按时取穴法是：“手阳明大肠合谷庚，手少阴心通里丁，手太阴肺列缺辛，手太阳小肠腕骨丙，手厥阴心包内关癸，足厥阴肝中都乙，手少阳三焦阳池戊，足少阳胆丘墟甲，足太阴脾公孙己，足太阳

膀胱京骨壬，足阳明胃冲阳戊，足少阴肾水泉癸。”对针灸临床均有一定指导意义。

3. 汪石山外科疮疡循经取穴方

汪石山认为应根据经络循行特点对疾病进行辨证取穴。如将疮疡的发病部位与经络循行联系起来，从而确定腧穴的选取：“从背出者，当从太阳五穴，选用至阴、通谷、束骨、昆仑、委中；从鬓出者，当从少阳五穴，选用窍阴、侠溪、临泣、阳辅、阳陵泉；从髭出者，当从阳明五穴，选用厉兑、内庭、陷谷、冲阳、解溪”（《外科理例·卷之六·疮疡》）。由于背、鬓、髭分别为足太阳、足少阳、足阳明经脉所循，因此选用相应经脉的五腧穴治疗。由此可见，汪氏辨证取穴是以经络腧穴理论为基础的。

4. 吴崑“五门”针方

吴崑根据《内经》、《难经》中的五输理论，将脏腑辨证与经络辨证有机结合，演绎成五脏六腑十二经脉的五输主病，即按五脏六腑十二经脉分别取五输穴的五门主治说。这里的“五门”指十二经的井荥输经合穴，因其流注气血，开合如门户而名。其具体内容如下：假令得弦脉，病人善洁（洁癖），面青，善怒，此肝病也。若心下满当刺足窍阴（井），身热刺侠溪（荥），体重节痛刺足临泣（输），喘咳寒热刺阳辅（经），逆气而泄刺阳陵泉（合），又总取丘墟（原）。假令得弦脉，病人淋洩难，转筋，四肢满闭，脐左有动气，此肝病也。若心下满当刺大敦（井），身热刺行间（荥），体重节痛刺太冲（输），喘咳寒热刺中封（经），逆气而泄刺曲泉（合）。以下各脏腑经脉首先根据脉症辨明何脏腑经脉之病，然后按《难经·六十八难》五输主病依次取井、荥、输、经、合五穴，阳经又总取原穴。

对五门主治的原理，吴崑还根据五行学说进行了阐发。他说：“以上五门主治，古针方也。

盖以阳井金，阴井木，所以主治心下满者，金病则贲郁，木病则不得条达，故令心下满也。阳荥水，阴荥火，水病则阴亏，火病则益炽，故令身热。阳输木，阴输土，木主筋，筋根于节，上主肉，肉附于体，故令体重节痛。阳经火，阴经金，火乘于金则病喘咳，金火相战，金胜则寒，火胜则热，故主喘嗽寒热。阳合土，阴合水，水败则火失其制，而作气逆；土败则水失其防，而作洞泄，故主气逆而泄。此五门主治之义也。”

5. 徐春甫灸治中风方

徐春甫《古今医统大全·卷之八·中风门》中，灸治中风中脉，取听会、颊车、地仓三穴，“左患灸右，右患灸左”；灸中风中腑，穴取百会、肩髃、曲池、风市、足三里、绝骨，“不论是风与气，可速灸此六穴”；灸中风中脏，则取百会、大椎、肩井、间使、足三里、曲池，“以次第灸之，立愈”。这些经验对后世灸疗的发展都起到了积极的作用。

6. 吴亦鼎疼痛分部取穴方

吴亦鼎的《神灸经纶》卷之三、卷之四对于各部证治，言简意赅，条分缕析，特别是分部辨证，更具新意。书中记载首部、中身、手足、二阴证略，并详述各部诸病灸法证治。头痛：百会、囟会、丹田、气海、上星、神庭、曲差、后顶、率谷、风池，上穴择灸一穴即可愈。腰背重痛：腰俞、大肠俞、膀胱俞、身柱、昆仑，灸腰痛不可俯仰，令患者正立，以竹杖拄地，量至脐中，用墨点记，乃用量脊中，即于点处随年壮灸之；灸迄，藏竹杖，勿令人知。痿证：灸涌泉、阴谷、阳辅。白浊：脾俞、小肠俞、气海、章门、关元、中极等。吴氏分部灸治的特点，可见一斑。

7. 周树冬八纲条析配穴方

周树冬《金针梅花诗钞》宗《灵枢·寿夭刚柔篇》“审知阴阳，刺之有方；得病之始，刺之有理，”创“八纲条析，”详列“以阴为纲各症配穴法、”“以阳为纲各症配穴法”。例如，里症的征候若为“心气郁结，恍惚惊悸，头目昏花，烦闷不乐，痴呆健忘，不眠多梦”，则配穴使用心俞、神门、大钟、通谷、少冲、神道、通里、膻中、郄门、阴交、神庭、灵道、间使、行间、巨阙、大陵、隐白、中冲、百会、气海；表症的征候若为“外感风寒，发热无汗，头痛项强，鼻塞多涕，咳嗽咽痛、浮风隐疹”，则配穴使用合谷、复溜、温溜、风门、然谷、经渠、天柱、光明、大都、孔最、至阴、商阳、曲池、委中、中渚、上星、陶道、后溪、隐白、液门。

8. 周树冬上下交征配穴

周树冬《金针梅花诗钞》立上下交征配穴，各取上肢和下肢之应病要穴以实现手足同治。上下交征配穴与八脉交会穴相通，应用更广，用以补充八穴之未备。周树冬列出常见病症的上下交征配穴的古法应用。例如，腹痛泻痢取合谷与足三里；半身不遂取曲池与阳陵泉；咳喘气急取列缺与足三里；心悸不眠取神门与厉兑；癫痫取劳宫与涌泉；胸胁胀痛取支沟与阳陵泉；大便不通取支沟与照海；。

在选穴配穴方法中，除了上述八纲条析配穴和上下交征配穴外，还有五输流注、俞募相连、原络主客、标本双郄、母子生克、循经分治、气血详分、远近相呼、应手得真、八脉交会、秋译求同、脏腑互通、任督同源、直邪贯穿、表里相关、阴阳相引、出奇守正、一脉相承、首尾兼顾、单枪直入、左右开弓、梅花双萼、轮番交替、叠见重收等选穴和配穴方法。

四、新安医家针灸施术特点

1. “一针两穴” 透刺针法

王国瑞首创“一针两穴”透刺针法。所谓“一针两穴”透刺法，指针刺入某一穴位后，采用不同的针刺方向、角度和深度，以同一根针作用于两个穴位，从而达到治疗疾病目的的一种针刺手法。《扁鹊神应针灸玉龙经》记载了治疗偏正头痛用丝竹空透率谷的方法：“头风偏正最难医，丝竹金针也可施，更要沿皮透率谷，一针两穴世间稀”。此后，吴崑在临床针灸治疗时，也推崇一针二穴的透刺法。他讲究取穴少而精，在《针方六集》中汇集了 12 对透刺穴组，即风池透风府、颊车透地仓、头维透悬颅、攒竹透鱼腰、膝关透膝眼、昆仑透太溪、阴陵泉透阳陵泉、支沟透间使、外关透内关、液门透阳池、列缺透太渊、光明透蠡沟，至今仍为针灸临床所常用。

《金针梅花诗钞》对一针多穴也有发挥，有“一针四透古来稀”，自液门进针透过中渚、后溪、少府，深刺还可透腕骨，治筋骨肉皆治，也能治风寒湿脾肝肾。

2. “左病取右，右病取左” 针法

左病取右，右病取左的方法源于《内经》。《灵枢·官针》记载：“巨刺者，左取右，右取左。”《素问·缪刺论》也提到了“以左取右，以右取左”的“缪刺”法、王国瑞宗《内经》学术思想，并加用发挥。他对于头风偏痛等病采用了“左疼取右，右疼取左”的治疗方法。《扁鹊神应针灸玉龙经·磐石金直刺秘传》记载：“头风偏痛不可忍，半边口燥热，合谷（泻），解溪（左疼取右，右疼取左）。”《玉龙歌》记载“口眼喎斜”的治疗是喎左泻右、喎右泻左，“中风口眼致喎斜，须疗地仓连颊车；喎左泻右依师语，喎右泻左莫教差。”既有交经互刺，又有交经透刺。对中风偏瘫的治疗要先补健侧，后

泻患侧：“中风半身不遂，左瘫右痪，先于无病手足针，宜补不宜泻；次针其有病足手，宜泻不宜补——合谷（一）、手三里（二）、曲池（三）、肩井（四）、环跳（五）、血海（六）、阳陵泉（七）、阴陵泉（八）、足三里（九）、绝骨（十）、昆仑（十一）。”（《扁鹊神应针灸玉龙经·磐石金直刺秘传》）上方配伍严密，针法独特，可见《扁鹊神应针灸玉龙经》之“劝君要治诸般疾，何不当初记玉龙”古人诚不我欺。

3. 刺络放血针法

刺络放血也源于《内经》，络刺、赞刺、豹纹刺、毛刺、大泻刺等所言都是指针刺放血。新安医家有些擅长刺络放血。如：清代名医郑梅涧将针刺放血用于喉科病证，疗效显著。他认为喉科病症多由于血气壅滞所致：“凡诸病之作，皆由血气壅滞不得宣通，宜用针刺者，以针法开导之。”（《重楼玉钥·针灸诸则》）。因此创立郑氏喉科三针：开风路针、破皮针和气针。

“所谓开风路针者，盖喉风都是风邪，按穴针刺，开其风壅之路，使之外出也”。所谓“破皮针”，乃是用针刀刺破皮肤以治疗喉证的一种针法。破皮针法所用工具，以铍针为主，在“斗底风”描述中有注云：“即铍针也”。破皮针法操作要点有二：第一刺宜浅，如“双燕口风”、“双搭颊风”均提到不可深刺；第二强调放血，如“爆骨搜牙风”、“重腭风”、“鱼腮风”、“瘰癧风”、“穿颌风”等均主张出血。郑氏认为，出血不仅能增强疗效，且能判断预后。说明郑氏运用放血疗法有丰富的经验。在《重楼玉钥·原叙》中记载了郑老先生刺血治疗验案：

“见有垂毙者，先生刺其颈出血如墨豁然大愈。”“气针”则是不需刺破皮肤，主要指通过选用十四经气穴来“调气”。三种针法相辅相成，共奏佳效。

王国瑞《玉龙歌》治疗腰脊强痛，也提倡委中刺血：“脊膂强痛泻人中，挫闪腰疼亦可针。委中亦是腰疼穴，任君取用两相通。人中即水沟穴，在鼻下三分銜水突起处是穴，针三分，向上些，少泻无补，灸七壮。委中位于膝后纹动脉中，针一寸，见血即愈。”临床上急性腰扭伤，腰痛不可俯仰者，此法屡用屡验。

4. “置针言灸”或针灸并用法

“置针言灸”是指专用灸法。代表性新安医家有吴亦鼎等。灸法是中医学中最古老的疗法之一，历史悠久，最早见于《足臂十一脉灸经》和《阴阳十一脉灸经》。三国魏晋时期出现了灸疗专著，如曹翕撰写的《曹氏灸方》（佚）。南宋时代窦材提倡“灼艾第一、丹药第二、附子第三”，把灸法放在头等重要的位置。清代新安医家吴亦鼎鉴于当时重汤药而轻针灸的局面，力倡灸疗，撰灸法专著《神灸经纶》，他指出：“是编置针言灸，非以针难而灸易，以针之手法未可以言传，灸之穴法尚可以识也。苟能精义讲求，由灸而知针，由针而知道，绍先圣之渊源，补汤液所不及，其功效岂浅显哉。”认为灸法通过语言、文字及图形“尚可度识”，易于掌握，便于推广，且用之得当，疗效显著，可以补汤液之所不及。并提出“明证后治”、“灸重审穴”及灸可“温暖经络，宣通气血”等学术思想，丰富和发展了灸法理论。

汪机力主疮疡用灸。他在《外科理例》中指出：“《精要》曰：灸法有回生之功，信矣”。（《外科理例·卷一·灸法总论四十八》）。该书记载了多种隔物灸方法，除了常用的隔附子灸、隔蒜灸之外，还有隔豆豉饼灸、隔木香灸、隔香附灸等。提出疮疡用灸胜于用药，“中虚者，不灸而服毒药，则疮毒未除，中气先伤，未有不败者也。李氏云：治疽之法，著艾胜于用药。”灸法治疗疮疡的作用机制，他认为是“若

未溃则拔引郁毒，已溃则补接阳气”。对施灸的量与度，明确指出以临床疗效作为判断标准：

“疗毒甚者，痛则灸至不痛，不痛则灸至痛，亦无不愈”。该书记载了多个艾灸医案，如：“一人年逾四十发背，心脉洪数，势危剧……骑竹马灸，灸其穴，是心脉所游之地，急用隔蒜灸，以泻心火，拔其毒，再用托里消毒而愈”。为后世热症用灸，提供了案例。

徐春甫倡导针药兼用，而且尤为推崇灸法。在《古今医统大全》所列病证中，用灸者比比皆是，仅以足太阳膀胱经穴为例，63 个经穴中，涉及灸法者达 60 穴。在《古今医统大全·针灸直指》中更详列了“艾灸方宜”、“艾叶”、“艾灸补泻”、“艾炷大小”、“点艾火”、“壮数多少”、“灸法”、“炷火先后”、“灸寒热”、“灸疮要发”、“贴灸疮”、“洗灸疮”、“灸宜保养”、“灸忌食物房劳”等诸多灸疗学内容。他还对灸法的处方配穴、体位选择、壮数多少、艾炷大小、施灸顺序以及灸后护理等，都作了比较详细的介绍。

在使用灸法的新安医家中，王君萃独树一帜。其所著的《小儿烧针法》以灯芯草灸为主要方法治疗小儿惊风。该书之“烧针”并非指“温针灸”或“火针”，而是指灯草灸，又称焮法、灯火焮法、油捻灸、十三元宵火、“神灯照”等，江浙民间还称为打灯火，而湖北恩施地区称为烧灯火。方法是用灯心草一根，以麻油浸之，燃着后用快速动作对准穴位，猛一接触听到

“叭”的一声后迅速离开，或灯火即灭。应蘸油适量，动作迅速，如无爆之声可重复一次。《小儿烧针法》图文并茂的介绍了小儿二十四种惊风的症状以及灸治的穴位，如：“呃逆惊”：“此症服乳即吐，人事昏迷，肚内痛。用灯火烧两曲池各一点，两虎口各一点，心窝中烧七点，即

好。”并附有小儿心窝七点图片，一目了然。对小儿病症治疗有重要参考价值。

5. 古典针灸的刺法汇集

周树冬《金针梅花诗钞》是一本刺法灸法的大成之作。《金针梅花诗钞》详解了《黄帝内经》九刺、十二刺、五刺、缪刺、散刺等刺法。

《金针梅花诗钞》总结了单式针刺手法十九种：提、按、搓、捻、颤、刮、弹、捣、摇、摆、摄、循、抽、添、息、诱、敲、倒、压。《金针梅花诗钞》阐发了导气成方复式手法十三种：青龙摆尾、白虎摇头、赤凤迎源、苍龟探穴、龙虎交战、子午捣臼、运气法、提气法、进气法、纳气法、调气法、留气法、抽添法，记载了梅花派导气法四种：通气法、调气法、助气法、运气法。“梅花派导气法”又细分为推气法、引气法、行气法、和气法、迎气法、鼓气法、提气法、纳气法等。“通、调、助、运气法，实导气之纲领也。通者推之引之，疏而决之之义也。经气流通，则正气自复，而邪气自平。因之，通乃是辅针导气之第一要义。次即为调，调者行之和之，有缓而抚之，平而衡之之义焉。通后须用调，调之气乃顺。第三为助，助者迎之鼓之，有激而动之之义焉。气实者通之则易决也，调之则易顺也。气虚者通之难达，调亦不畅，故必迎而鼓之。第四为运，动者提之纳之，有运而用之义焉。气能为我用，则导气之功备矣。”

总之，新安医家针灸之所以疗效卓著，与其深厚的理论、精确的辨证、合理的选穴、独到的刺灸手法有密切的关系。

五. 结论

新安针灸学派，以其独特的地理文化背景和深厚的历史积淀为基础，形成了具有显著特色的治疗体系。该学派不仅仅是技术的传承，更是一

种深邃的理论与实践的结合。通过对《黄帝内经》和《难经》等经典的深入研究和应用，传承与发扬，新安医家能够将古代理论与现代医学实践相结合，创造出许多创新的治疗方法。

新安针灸学派的临床实践特别重视病因的全面分析和治疗方法的个体化选择。医家们通过严谨的辨证施治，精准地选择适合病人病状的穴位和治疗策略。这种方法强调了治疗的精确性和个性化，反映了中医“治未病”和“因人制宜”的精神。新安针灸流派还特别强调医者的修养和道德，认为高水平的医术不仅来源于技术的精湛，更源自于医者的品德和责任感。这种理念提升了整个流派的治疗效果和社会影响力，使得新安针灸在国内外享有盛誉。从学术研究的角度来看，新安针灸学派的成就表现在对针灸理论的深化和临床应用的广泛化。研究者通过不断地探索和验证，拓广了许多穴位配伍和治疗手法，这些创新不仅丰富了针灸学的学术内容，也极大提高了治疗的效果和适用范围。

新安针灸学派作为中国传统医学的重要组成部分，其理论的深度和实践的广度都显示了中医在现代社会的适应性和生命力。随着全球对健康医疗模式的多样化需求增加，新安针灸学派的国际影响力有望进一步扩大，其独到的治疗方法和哲学思想将更多地为世界所认知和利用。

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动筋针疗法的动态留针在临床的应用

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关键词：动筋针疗法；疼痛；动态留针法；动筋针；软组织损伤；激痛点

摘要

本研究观察、对比动筋针疗法的动态留针法和传统常规针刺法的静态留针，在治疗软伤类疼痛性疾病的临床疗效差异，以期疼痛类疾病的患者提供一种更有效的治疗方法和方案。本研究按照随机数字表法，将入组的疼痛患者随机分为治疗组和对照组，每组各 33 例。治疗组予以动筋针疗法的动态留针法，对照组予以传统常规针刺法。结果显示动筋针疗法的动态留针法与传统常规针刺法的静态留针均可有效改善疼痛类患者的临床症状，同时，动筋针疗法的动态留针法对于疼痛的改善效果优于传统常规针刺法，有效率更高，值得临床进一步推广。

关键词：动筋针疗法；疼痛；动态留针法；动筋针；软组织损伤；激痛点

动筋针法的概念

动筋针疗法是陈德成教授在 30 余年的针灸临床实践中，摸索总结出来的一套新型针刺方法，属于针灸疗法的一种。动筋针疗法是指采用动筋针，应用特定的动筋针操作方法。针灸治疗疾病时，患者在医生指导下，在针刺留针过程中进行带针主动、被动和负荷运动¹。它是结合经络学、刺灸学、经筋学、解剖学和运动学等一系列学科理论的一种综合性针刺疗法，主要用于治疗软组织损伤导致的各种痛证和某些内脏疾病²。

动筋针法的特点是：针刺后，留针期间患者带针运动，针刺部位多为病灶的局部，即针刺治疗的靶点，也称动筋点³，寻找和确定动筋点是治疗取效的基础，使用动筋针和特殊动筋法针刺进行提拉滞针是取效的关键。患者在留针期间带针运动，这是动筋针疗法取效的核心⁴。

运动方式则以主动运动为主，被动运动为辅，适当进行负荷运动，以患者能耐受为度，确定靶点、合理针刺和适宜运动是动筋针法的三大步骤，这可以用六个字来概括：靶点、针刺、运动⁵。

治疗过程中采用特殊专利针具“动筋针”进行治疗，“动筋针”是一种实用新型专利针，是在传统针灸所用毫针的基础上发明的新型针具。

二、动筋针疗法治疗常见疼痛病症的临床应用

1. 临床资料

2. 一病例来源

参加本研究的 66 例受试者为来自于 2021 年 9 月至 2023 年 9 月就诊于马里兰州 Penny Acupuncture herbal medical massage clinic & SPA, LLC 的患者，被诊断为软组织损伤 导致的各种痛症，符合本课题的纳入标准，将患者随机分为治疗组和对照组，每组各 33 例。

3. 一般资料

根据随机数字表法将患者分为治疗组和对照组，每组各 33 例，治疗组男性 16 例，女性 17 例；对照组男性 17 例，女性 16 例。将两组间一般资料进行对比之后，统计学分析无差异。疼痛部位如下表 1：

疼痛部位	头颈	肩背	髋关节	腰髋	膝	足跟
治疗组	6	6	4	7	5	5
对照组	6	5	4	7	5	6

表 1：两组各部位疼痛病例数

1) 诊断标准

根据世界卫生组织（World Health Organization, WHO）于 2018 年重新修订的国际疾病分类（ICD-11）中软组织损伤的诊断标准⁶，参加本课题的病人皆被诊断为由软组织损伤导致的痛症，包括颈痛、肩痛、腰痛、膝关节痛、腕关节痛、足跟痛等，表现为局部软组织的损伤疼痛，包括肌肉、肌腱、筋膜等，并有相应部位的功能障碍，不伴有骨骼或身体结构的改变，不伴有其他严重的临床和心理疾病的症状和体征。

2) 纳入标准

- 患者符合上述诊断标准，VAS 量表评分大于 6 分，VRS 语言评分法大于 2 级；
- 患者年龄 18-80 岁，生命体征平稳；
- 签署同意书，并能提供相关数据者。

3) 排除标准

- 18 岁以下或 88 岁以上患者。
- 开放性软组织损伤、伴有韧带完全断裂或骨折的患者；
- 有严重心脑血管、肝肾疾病者；
- 特异性疼痛，包括肿瘤、感染、代谢性疾病、类风湿性关节炎、骨折等；
- 脊柱畸形或脊柱手术史，存在根性症状；
- 备孕、孕期或哺乳期的妇女。

4) 终止标准

- 出现严重不良事件，根据医生判断应该停止该病例临床试验者；
- 出现其它影响试验观察的病症，据判断应停止临床试验，作无效病例处理者；
- 试验过程中患者依从性太差，难以评价疗效；
- 受试者不愿再继续进行，提出退出试验。

5) 剔除标准

- 因主观或客观原因不能接受针刺治疗，无法判断疗效或研究中自愿退出者；
- 治疗过程中因伴发其他疾病，不能或不愿意继续接受治疗。

c.

2. 研究方法

1) 分组方法

采用随机数字表法，将符合纳入标准的 66 例患者随机分为 2 组，分别为治疗组与对照组，各 33 例。

2) 治疗方法

a. 治疗组（动态留针组）

选穴（动筋点）：通过“三步一流程”方法，分别确定疼痛部位和相关肌肉，如斜角肌，肩胛提肌，三角肌，小圆肌，大圆肌，股薄肌，肩胛提肌，肱二头肌，肱三头肌，腓肠肌，比目鱼肌，腰大肌，斜方肌等上的治疗点（动筋点）。

操作：选用陈德成博士发明的专利动筋针进行治疗，采取晃着带针运动，即动态留针方式。

疗程：每次留针 30 分钟左右，每周治疗 1-3 次，隔日一次，2 周为 1 个疗程，一般治疗治疗不超过 2 个疗程。

b. 对照组（常规针刺组）

选穴：Gb-21, Gb-20, LI-15, SJ-14, LI-11, LI-14, LI-4, LI-3, SI-3, SI-11, Back-Shu Points from T2 to T5, UB-15, Ba Liao Xue, Gb-30, Gb-31, Gb-41, Gb-34, Sp-10, Sp-9, Sp-6, Sp-15, Du-16, KI-3, KI-7, St-36, Neixiyan, Waixiyan, Hedong.

操作：选择普通毫针，

疗程：每次留针 30 分钟，每周治疗 3 次，隔日一次，2 周为 1 个疗程，共治疗 2 个疗程。

3) 观察指标

- 一般指标：**详细记录受试者的姓名、性别、年龄、病程、有无过敏史等。
- 疗效性指标：**采用中华医学会疼痛医学会监制的疼痛强度简易描述量表（Verbal Rating Scale, VRS）、疼痛视觉模拟量

表(visual analogue scale, VAS)评分。VAS 评分是通过医生目测患者的疼痛程度，得出的一个评分；而 VRS 是患者本人口述疼痛程度，描述以疼痛从最轻到最强的顺序排列。

主要评价指标：VAS 评分

评分：视觉模拟评分法(Visual Analogue Scale/Score, 简称 VAS)^{7, 8}：其中包含了痛症评估的国际标准（临床疗效评估工具-NRS）数字评定量表（Numerical rating scale, NRS）^{9, 10}该法比较灵敏，有可比性。具体做法是：在纸上面划一条 10 cm 的横线，横线的一端为 0，表示无痛；另一端为 10，表示剧痛；中间部分表示不同程度的疼痛。让病人根据自我感觉在横线上划一记号，表示疼痛的程度。程度分级标准为：0 分，无疼痛；1-3 分，有轻微的疼痛，患者能忍受；4-6 分(中度疼痛)：患者疼痛并影响睡眠，上能忍受，应给与临床处置；7-10 分(重度疼痛)：患者有渐强烈的疼痛，疼痛剧烈或难忍。此方法在国际上较为通用（见图 1）。



图 1：视觉模拟评分法（VAS）¹

次要评价指标：疼痛强度简易描述量表（VRS）是将疼痛测量尺与口述评分法相结合，采用 5 点评分法，可分为 5 级，即 0 级：无疼痛。1 级：轻微疼痛，疼痛可忍受，能正常生活、睡眠。2 级：中度疼痛，疼痛轻度干扰睡眠，需要用止痛药。3 级：重度疼痛，疼痛干扰睡眠，需要用麻醉止痛剂。4 级：剧烈疼痛，疼痛干扰睡眠较重，伴有其他症状。5 级：无法忍

受的疼痛，疼痛严重干扰睡眠，伴有其他症状或被迫采取被动体位（见表 2）。

口头评定量表 (verbal rating scale, VRS)					
0	1	2	3	4	5
无痛	轻度不适	不适	比较疼痛/难受	非常疼痛	疼痛到极点

表 2：疼痛主诉评定¹

- 4) 不良事件处理**
- 研究者避免诱导性提问，向患者说明，要求患者如实反映针刺后的病情变化，在观察疗效的同时，密切注意观察不良反应，分析原因，做出相应的判断，发现不良反应时，医生可根据病情决定是否终止试验。
- 5) 统计学处理**
- 采用 SPSS 26.0 统计软件进行数据整理和分析。计量资料若符合正态分布，采用 $\bar{x} \pm s$ 表示，组间采用两独立样本 t 检验，组内比较采用配对样本 t 检验。计数资料采用频数（百分比）表示，组间比较采用卡方检验。P<0.05 为差异具有统计学意义。
- 6) 技术路线图（见图 2）**

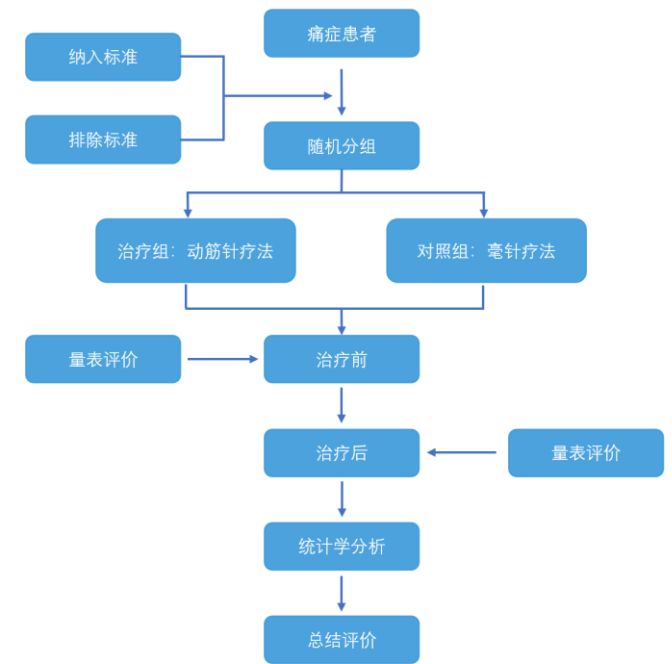


图 2:统计结果与分析

a. 两组患者一般资料比较

研究共纳入 66 名患者，男性和女性各 33 名。年龄范围为 18~80 岁，平均年龄为 40.64±13.50（岁）。其中治疗组 17 名男性，16 名女性，平均年龄为 40.12±13.79（岁）；对照组 16 名男性，17 名女性，平均年龄为 41.15±13.39（岁）。经卡方检验和两独立样本 *t* 检验发现，两组患者性别、年龄的组间比较，差异均无统计学意义（*P*>0.05）。见表 3。

表 3:两组患者一般资料比较

指标	治疗组 (<i>n</i> =33)	对照组 (<i>n</i> =33)	χ^2 / <i>t</i> 值	<i>P</i> 值
性别, <i>n</i> (%)			0.06 1	0.80 6
男	17 (51.5)	16 (48.5)		
女	16 (48.5)	17 (51.5)		
年龄 (岁)	40.12±13.79	41.15±13.39	— 0.308	0.759

b. 两组患者治疗前后 VAS 评分的比较

经两独立样本 *t* 检验和配对样本 *t* 检验发现，两组患者治疗前 VAS 评分的组间比较，差异

均无统计学意义（*P*>0.05）。治疗后治疗组 VAS 评分均低于对照组（*P*<0.05）。与治疗前比较，治疗后两组患者 VAS 评分均下降（*P*<0.05）。见表 4。

表 4: 两组患者治疗前后 VAS 评分的比较

组别	例数	治疗前	治疗后	<i>t</i> 值	<i>P</i> 值
治疗组	33	7.97±1.10	1.42±0.97	32.750	<0.001
对照组	33	8.21±1.11	4.27±1.15	17.440	<0.001
<i>t</i> 值		-0.889	-10.863		
<i>P</i> 值		0.377	<0.001		

c. 两组患者治疗前后 VRS 评分的比较

经两独立样本 *t* 检验和配对样本 *t* 检验发现，两组患者治疗前 VRS 评分的组间比较，差异均无统计学意义（*P*>0.05）。治疗后治疗组 VRS 评分均低于对照组（*P*<0.05）。与治疗前比较，治疗后两组患者 VRS 评分均下降（*P*<0.05）。见表 5。

表 5: 两组患者治疗前后 VRS 评分的比较

组别	例数	治疗前	治疗后	<i>t</i> 值	<i>P</i> 值
治疗组	33	3.85±0.71	0.54±0.51	29.804	<0.001
对照组	33	4.00±0.75	2.09±0.58	14.336	<0.001
<i>t</i> 值		-0.841	-11.549		

<i>P</i> 值	0.403	<0.001
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三、典型病例

【例 1】急性腰痛(腰大肌损伤)

姓名： MW

性别： 女性

年龄： 43.

婚况： 已婚

就诊日期： 2023 年 10 月 20 日

居住地 ： 马里兰，哥伦比亚

职业： 家庭主妇

主诉： 剧烈腰痛 1 天

现病史： 患者两年前从事站立和弯腰售货员工作，由于经常站立弯腰导致她腰酸背痛经常发作，曾做过了传统针灸和理疗及按摩等治疗，每次治疗后有些效果，但一周或半月腰酸背痛反复出现。1 天前她因在家弯腰拖地约一小时，导致腰痛和活动受限，当天夜间腰痛加重，上床困难，无法平卧和入睡，翻身困难。站立时不能直腰，也不能后伸腰，行走时腰部略前屈，不敢坐下，从坐位站起十分痛苦。

近一年月经量明显减少，最近月经周期两月一次。容易焦虑和失眠，有时头目昏眩和胸闷心烦。无夜间出汗。

当前功能水平：

患者存在以下困难：

- a. 睡眠： 患者因腰痛每晚醒来 5 至 6 次。
- b. 腰椎伸展： 患者报告腰部疼痛在伸展时增加，疼痛评分（VAS）为 8/10。

c. 从坐姿站起来： 患者报告腰部疼痛在从坐姿站起来时增加到 VAS 8/10。

既往病史： 慢性腰痛

观察：

因腰痛导致的面部表情痛苦，有紧张感。

步态： 躯干旋转减少，步长和步频降低，脚跟着地过渡能力下降。

体格检查：

脉搏： 62 次/分钟； 血压： 120/88 mmHg； 呼吸频率： 16 次/分钟； 体温： 98.6° F（37° C）

MRI/X 光： 无异常。

主动活动度（AROM）：

腰椎（正常活动度）

屈曲： 0-70 度（正常： 0-90 度）

伸展： 0-10 度（正常： 0-30 度）

旋转： 0-55 度（正常： 0-90 度）

侧弯： 0-25 度（正常： 0-30 度）

俯卧位直腿抬高试验： 左大腿 30 度； 右大腿 50 度。

被动活动度（PROM）：

腰椎（正常活动度）

屈曲： 0-75 度（正常： 0-90 度）

伸展： 0-15 度（正常： 0-30 度）

旋转： 0-75 度（正常： 0-90 度）

侧弯： 0-30 度（正常： 0-30 度）

俯卧位直腿抬高试验： 左大腿 35 度； 右大腿 55 度。

中医检查：

舌体： 薄而紫

舌苔： 厚白苔

脉象：频率：适中；节律：正常

右脉：寸（肺经）：浮/适中；关（胃经）：适中/虚/滑；尺（肾经）：沉/虚

左脉：寸（心经）：适中/虚；关（肝经）：适中/弦；尺（肾经）：适中/虚

触诊：

膀胱经、胆经的腰部、臀部和腿部部位存在结节。

俯卧位时，腰椎两侧压痛明显（+++），后腿伸展受限明显；仰卧位时，脐下 2 寸，腹直肌边缘旁压痛明显（+++），左侧更为明显。

小转子是腰大肌的止点，有明显压痛。

背部膀胱经结节。

相关经络：膀胱经、胆经、肝经、脾经、胃经、心经、肾经。

中医诊断：

腰大肌劳损导致气滞血瘀的急性腰痛，伴有肾虚。

治疗原则：

- 行气、活血、止痛
- 补肾

治疗：

1. 动筋针疗法。腹部动筋点用 3.0 寸毫针，脐下 2 英寸和正中线上旁开 2 英寸沿腹直肌边缘垂直或内斜缓慢进针，触及腰大肌后，腹部提拉数次；大腿前内侧小转子体表投影处用 1.5 寸毫针皮下平刺 3 针，之后配合带针主动和被动运动，直腿抬高、仰卧起坐和腹式深呼吸，通过以上治疗患者当即腰部疼痛减轻了 80 -90%，俯卧直腿抬高明显改善。

诊疗说明：

1. 腰大肌损伤或髂腰肌损伤，在腰痛患者中占有一定的比例，但往往不被医生重视。或者并不知道如何治疗。腰大肌位于腰椎的两侧，后方是整个腰背肌群。从腰背部是不能触及腰大肌的，它位于腰部的深层、腹腔内脏的后方，从腹部腹直肌的外缘缓缓按压，可以触及腰大肌。

2. 很多腰痛的患者与腰大肌损伤有关。长期坐位工作的人员，如出租车和卡车司机等，久坐使腰大肌处于 90° 的“折刀位”，导致腰大肌紧张、变粗变短，患者从坐位到站位十分困难。这部分患者通常腰部前屈没有障碍，但后伸明显受限，据此，基本可以诊断腰大肌损伤。3. 本案患者因“弯腰拖地过久”，拖地过程中可能伴有腰部旋转。一般弯腰旋转是腰大肌损伤的主要原因之一。

4. 腰大肌的起始点和激痛点压痛，后腿直抬受限等阳性体征，是诊断腰大肌损伤的依据！

5. 小转子是腰大肌的止点，通常有压痛动筋骨点，小转子的体表投影在耻骨联合下缘与腹股沟焦点 5cm 处。

6. 治疗从腹部进针，按松解腰大肌的动筋针疗法对病人进行治疗，故取得了良好的疗效。这也是我的导师陈德成教授独特疗法“腰痛治腹”的临床实际体现！

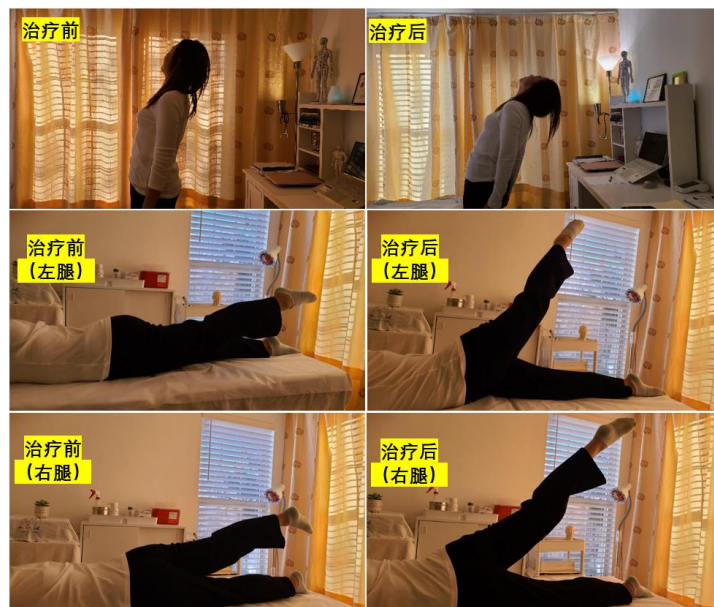


图 3：动筋针治疗前后案例 1 患者对比图像

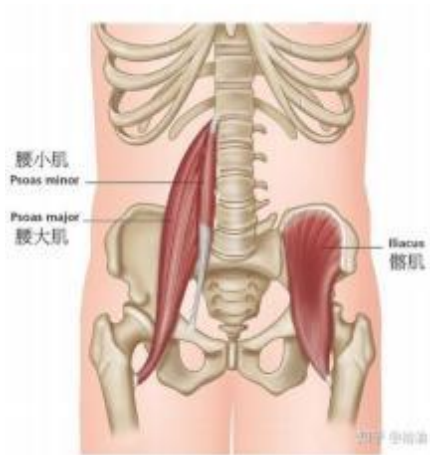


图 4：案例 1 患者相关肌肉

(<https://mokayogavenice.com/the-psoas-the-muscle-of-the-soul/>)

【例 2】颈部疼痛（斜角肌和胸锁乳突肌劳损）

病人姓名：M. U

性别：女

年龄：54

婚姻状况：已婚

居住地：美国马里兰州哥伦比亚市

职业：公务员

教育程度：硕士

初诊：2022 年 9 月 21 日

复诊：2022 年 9 月 24 日

主诉：颈肩疼痛 8 年，近一周加重。

患者长期伏案工作，经常出现颈部疼痛、僵硬，伴有右侧手臂麻木，特别是第二、三指。她断断续续地接受了传统针灸、按摩和物理治疗，症状有所波动，有时伴有头晕和头痛。7 天前，经过

长时间工作后，她醒来时颈部疼痛明显加重，尤其是右侧，最痛点在右侧乳突下，活动受限，特别是颈部后伸。经一位朋友推荐，来我诊所接受针灸治疗。这位朋友也是我的病人。

X 光和 MRI：提示颈椎 C4-C6 退行性改变。

观察：

步态：行走缓慢，步态谨慎

姿势：头部前伸，圆肩，胸椎后凸增加，腰椎前凸减少

活动能力：独立活动

体格检查：

脉搏：72 次/分钟；血压：120/78 mmHg；呼吸频率：18 次/分钟；体温：98° F (36.7° C)。

主动活动度（AROM）：

颈椎（正常活动度）

屈曲：0-30 度（正常 35-45 度）

伸展：0-20 度（正常 35-45 度）

右旋转：0-30 度（正常 60-80 度）

左侧弯：0-15 度（正常 35-45 度）

被动活动度（PROM）：

颈椎（正常活动度）

屈曲：0-35 度（正常 35-45 度）

伸展：0-25 度（正常 35-45 度）

右旋转：0-35 度（正常 60-80 度）

左侧弯：0-35 度（正常 35-45 度）

触诊：颈部肌肉僵硬，颈部后伸、左侧屈明显受限，左侧旋转略受限，右侧旋转明显受限，右侧屈正常。颈部前侧肌群如颈阔肌、二腹肌及胸锁乳突肌紧张、缩短，右侧乳突下方压痛。后侧肌群如头颈半棘肌、肩胛提肌僵硬无力，胸锁乳突

肌乳突下方压痛明显，胸骨头和锁骨头处，斜角肌在第一和第二肋处止点明显压痛。颈部背部膀胱经、胆经结节。

相关经络：膀胱经、胆经、大肠经、肝经、小肠经、脾经、胃经、心经。

中医检查：

舌质：淡紫；舌苔：薄白，两侧有紫点。

脉象：弱/弦。

中医诊断：

斜角肌、胸锁乳突肌劳损，肝气不足导致气滞血瘀所致的颈部疼痛。

治疗原则：行气、活血、止痛。

治疗方法：

动筋针法：采用先进的动筋针针，直径 0.3x30mm。针刺右侧乳突下方压痛点、肩井处压痛点、胸骨头，锁骨头和右斜角肌压痛点等动筋点，先以辅助针法松解，再配合颈肩部基本运动。仅治疗 2 次，病人颈部疼痛、手臂和手指麻木均消失，颈部活动度改善。

诊疗说明：

1. 颈椎病是颈椎骨关节炎、增生性颈椎炎、颈神经根综合征、颈椎间盘脱出症的总称，是一种以退行性病理改变为基础的疾患。由于颈椎长期劳损、骨质增生，或椎间盘脱出、韧带增厚，致使脊髓、神经根或椎动脉受压，出现一系列功能障碍。

2. 颈椎病主要指脊柱本身的某些病变，但临床有相当一部分人以影像学为标准被诊断为“颈椎病”，可实际却没有任何临床症状。相反，也有些患者头颈部疼痛和功能障碍很明显，出现典型的“颈椎病”症状和体征，可影像学检查却正常。所以，对于头颈部疼痛的患者，不管是否被

诊断为“颈椎病” 均应先对颈部肌肉进行排查，发现问题，及时解决，有时会收到意想不到的效果。

3. 本案患者长期伏案工作，颈部肌肉疲劳，易发生肌肉紧张而引起疼痛

4. 右侧乳突下方压痛，此为胸锁乳突肌的起点，同时颈部后伸、右侧旋转受限，考虑为胸锁乳突肌损伤。

5. 斜角肌在第 1、2 肋处止点有压痛，左侧屈曲受限，考虑斜角肌损伤

6. 治疗选取相应靶点，因有结节较硬，故先采取辅助松解针法，再施动筋针法。

7. 找到导致病人右手臂和第 2、3 指麻木的病因。手麻原因通常是臂丛神经卡压造成的。巴科迪现象试验（Bakody）和肋锁间隙卡压测试均阴性，斜角肌挛缩实验测试阳性，考虑臂丛神经卡在斜角肌。



图 5：动筋针疗法治疗前后案例 2 患者对比图像

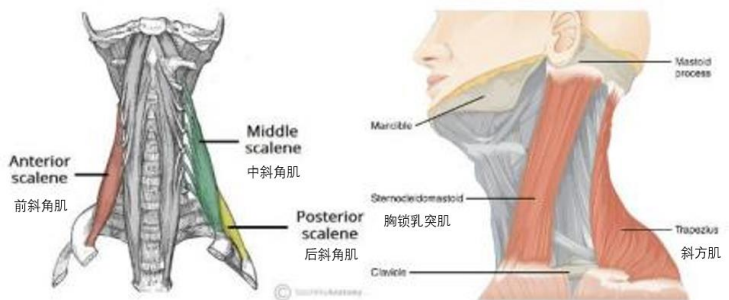


图 6：案例 2 患者相关肌肉

(<https://teachmeanatomy.info/neck/muscles/scalene/>,
<https://samarpanphysioclinic.com/sternocleidomastoid-syndrome/>)

四、小结

1. 治疗前疼痛基线比较：治疗前 2 足疼痛程度无明显差别

治疗前，据统计学分析，治疗组和对照组两组患者在性别、年龄等方面均无统计学差异（ $P>0.05$ ），表明两组间具有可比性。

2. VAS 量表评分 2 组治疗前后比较：2 组治疗前后疼痛程度均有改善

治疗结束后，治疗组和对照组患者的疼痛 VAS 评分均有降低（ $P<0.05$ ），提示两种治疗均能有效改善患者的 VAS 量表评分。组间比较，治疗结束后，治疗组的疼痛缓解和功能障碍改善等方面，效果更明显（ $P<0.05$ ）。

3. VRS 量表评分治疗后组间比较：2 组治疗后疼痛改善程度有明显差别

治疗结束后，治疗组和对照组患者的 VRS 评分均有降低（ $P<0.05$ ），提示两种治疗均能有效改善患者的 VRS 量表评分。组间比较，治疗结束后，治疗组的改善效果更明显优于对照组（ $P<0.05$ ）。

4. 动态监测

治疗组疼痛部位功能活动改善明显优于同组治疗前；同时也明显优于对照组治疗后的功能活动程度。

五、讨论

疼痛是由体内外伤害性刺激引起的一种复杂的心理生物学过程，是临床上某些疾病常见的一种症状。既是生理学的一种感觉类型，又是心理学的一种不愉快的情绪活动。

经络系统是人体的外部信息传递系统，它是在无外界刺激下的静息系统，只有在外界的有效刺激下，如：压力（按摩）、光（激光）、磁、温度（红外线）、针刺等，才激活了系统而发挥了信息的传递作用，从而完成了“有效刺激中央调控系统纠错”的人体自我康复的治疗机制，针灸是有规律的选择相应的治疗点（穴位），进行有效刺激（针法）所产生治疗作用的治疗方法。针灸所产生的酸、麻、胀、痛的感觉，实际上是针刺造成的一种组织损伤所致，在治疗中它扮演了“模拟损伤”的角色，正是通过这一小的“损伤”的事故信息，预警了中央控制系统，使中枢对此信息做出了相应的整合处理，并发出指令，致使人的免疫系统和生理平衡系统做出相应的反应，根据指令纠正了“模拟损伤”这一“类”地区所出现的问题，即由小损伤达到纠正大错误的目的。并强调针灸配穴要符合类的特点并遵循同位点规则才能达到预期的目的。

经络是人体气血运行的通路，由十二经脉、奇经八脉、十二经别、十二经筋和十二皮部及分布其间的上千个穴位组成。《黄帝内经》总结了经络的三大作用：运行气血，协调阴阳，调实补虚。针刺是通过穴位和经络来发挥临床功效的，这三大作用同时也就是针刺的作用机制，尤其是后两项。广义的经络应包括两种初级感觉传入神经网络：经络神经（快痛神经）网和代谢神经（慢痛神经）网。协调阴阳就是调控快痛神经与慢痛神经间兴奋性的平衡。调实补虚是实现经络内部气的制约与平衡，也就是中医的五行。两个网络各自内部气的制衡是实现阴阳平衡的基础，即阴阳自和，所以说传统针刺的主要作用机制是中医的五行权衡，换言之，调实补虚。

动筋针疗法是以传统的经络学说和经筋理论为基础，结合现代软组织解剖学、运动学和筋膜学等，由陈德成博士发明的动筋针和动筋针疗

法，主要真对软伤一类疾病的治疗方法，特别是软伤导致的疼痛有特殊的治疗作用。

了解了动筋针的结构特点，掌握动进针操作的特殊方法，以及软组织的层次特点，也就明白了“动筋针疗法”。动筋针技术是通过动进针对导致软组织疼痛的高涨应力点，即动筋点进行松懈，以达到解除疼痛，恢复功能障碍的目的。动筋针势必成为治疗疼痛的有效武器¹¹。

软组织包括肌肉、血管、皮肤、肌腱和各种内脏等。由软组织生物力学特性可看出，各层软组织具有粘弹性体的生物力学特点，但不同层次

的软组织的特性是不同的。在动筋针操作过程中，要确定和描述针尖所在的层次。

动筋针法治疗软组织劳损性疼痛的机制，是着眼于局部的减张和减压，这种机制与传统毫针疗法的机制有什么不同，动筋针对于软组织肌肉、筋膜等病理变化的过程和细节还有待进一步观察和研究，动筋针疗法是否还有其他作用？是否对内脏疾病也有显著的疗效，这些都是我们关心的焦点，也是指导临床使用亟待解决的关键问题。同时，如能在针具刺激和组织反应的更深层面去探讨其机制，则对针刺疗法机制的深入研究也是大有裨益的。

The Theoretical Origins and Selection Methods of Motion Acupuncture Points

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【Abstract】 As a distinctive feature of Motion Acupuncture therapy, the treatment target of needling is the "Motion Acupuncture Point," which is dynamic and highly precise. This article provides a detailed introduction to the theoretical origins of motion acupuncture points, including traditional concepts such as "treating based on pain," Ashi points, and meridian points, as well as modern concepts like tendon-related points, tender points, and trigger points. The article proposes a selection method based on the "three steps and one process" approach to accurately locate motion acupuncture points. The application of motion acupuncture treatment using motion acupuncture needles following this method can achieve significant clinical therapeutic effects. This represents an innovation in the selection of acupuncture points in the field of acupuncture.

【Keywords】 Motion Acupuncture points, Motion Acupuncture, Ashi points, tendon-related points, tender points, trigger points

The selection of treatment points is the first concern for acupuncture practitioners in clinical therapy, followed by the application of acupuncture techniques. As stated in the "Ling Shu · Nine Needles Twelve Origins," it is said: "Those who understand the way of the mechanism can stimulate it without relying on force; those who do not understand the way of

the mechanism, even with force applied, cannot achieve stimulation." A knowledgeable practitioner, understanding the mysterious mechanisms, can activate the mechanism with a slight force; however, those who lack this understanding cannot trigger it even with forceful stimulation. Therefore, the selection of appropriate and accurate treatment points can

directly influence, and even determine, the effectiveness of acupuncture therapy.

The discussion on acupuncture treatment points dates back to ancient times, with the concept of "treating based on pain" introduced in the classic work "Huangdi Neijing" and "Ashi points" mentioned in the "Qian Jin Yao Fang." Subsequently, concepts such as "meridian points" and "extraordinary points" emerged. With the development and evolution of modern fascial anatomy, various therapeutic approaches have emerged, and concepts like "trigger points" and "tender points" have also been introduced.

After summarizing traditional concepts such as Ashi points, meridian points, and extraordinary points, combined with modern anatomical Myofascial studies and years of clinical practice, I propose the concept of "motion acupuncture points" as the selected treatment targets in motion acupuncture therapy. Professor Qiu Maoliang, a respected mentor, once emphasized [1]: "No theory is suddenly created out of thin air; there must be a process from inception to development, and the formation of meridian points is no exception." As one of the five major components of motion acupuncture therapy (motion acupuncture points, motion acupuncture needles, motion acupuncture technique, motion acupuncture mode, and motion acupuncture theory), and within the context of four innovations (motion acupuncture points, motion acupuncture needles, motion acupuncture technique, motion acupuncture mode), "motion acupuncture points" have a certain historical background. However, they differ from traditional acupuncture treatment points. Motion acupuncture points are dynamic and highly precise, with a specific selection method known as the "three steps and one process." Clinical observations indicate that for pain conditions caused by soft tissue injuries and certain internal medical conditions, achieving favorable clinical outcomes is often possible by selecting

appropriate "motion acupuncture points" in treatment.

1. "Treating Based on Pain" and Ashi Points

The discourse on "treating based on pain" can be traced back to the "Ling Shu," specifically in the section "Ling Shu · Jing Jin," which states: "Treatment involves searing the needle and puncturing based on the patients' feeling and using pain as the guide." This statement is repeatedly mentioned in the context of Jing Jin, highlighting its crucial role in the treatment of diseases related to the Jing Jin diseases.

Generally, "searing the needle" comprises two components: rapid insertion and withdrawal of the needle with a heated needle (fire needle) and the application of warm needling technique, where the needle is retained after insertion, and during retention, moxibustion is applied to warm the needle. The term "劫" (jié) typically conveys the idea of "disaster" and in the human body often represents pathological points or tendon nodules. "Based on the patients' feeling" means relying on the patient's feelings to assess the course of the illness, thereby deciding the degree and frequency of treatment. Finally, "using pain as the guide" indicates that the acupuncture point is precisely where the patient feels pain, i.e., "needle where it hurts." Employing the patient's "pain points" as acupuncture treatment points has been widely adopted by later generations of medical practitioners.

It is important to note that the "treating based on pain" mentioned in the "Nei Jing" is a therapeutic principle for diseases related to Jing Jin, specifically for Jing Jin diseases. For diseases related to meridians, the treatment principle changes to "nourish if excessive, purge if deficient, clear if hot, retain if cold, neither excessive nor deficient, treat according to the meridian." This suggests that "treating based on pain" is primarily applicable to Jing Jin diseases, which are akin to contemporary

conditions caused by soft tissue injuries, especially pain-related ailments. The introduction of "treating based on pain" in the "Ling Shu · Jing Jin" marked the formation of a treatment methodology focusing on pain for Jing Jin diseases [2].

The concept of Ashi points was first introduced in the Tang Dynasty by Sun Simiao in the work "Qian Jin Yao Fang." It states: "There is a method called Ashi; when someone complains of pain, press the area. If it is indeed the right spot, regardless of acupuncture points, there will be immediate relief or pain; this is called Ashi. Moxibustion or needling can be applied to verify it, hence the term 'Ashi points.'" This marks the initial presentation of the concept of Ashi points, serving as a continuation, application, and development of the principles of "treating based on pain" or "when it hurts, then needle" from the "Ling Shu." [3] In the "Han Shu · Dongfang Shuo Zhuan," Yan Shigu commented: "Causing extreme pain is called 'Ashi.'" When a physician presses on a certain diseased area of a patient, the sudden compressive stimulation induces pain, and the patient unconsciously exclaims "Ah, that's it." Similarly, in modern clinical observations, individuals in Western cultures may also emit similar exclamations like "ouch." I suggest that the "pain points" and "nodules" mentioned here, as well as the transverse collaterals and tendon nodes in the "Nei Jing," can be considered as Ashi points. Ashi points have evolved beyond the framework of "treating based on pain," no longer just about finding painful points for acupuncture. Instead, they involve the doctor's palpation, using touch to identify pathological reaction points that may cause pain or a sense of relief for treatment.

2. Fourteen Meridian Points

The discussion on meridian points can be traced back to the "Su Wen · Qi Xue Lun," which states: "Three hundred and sixty-five points, the path of the needle." The concept of acupuncture points began with the "Nei Jing," and as the theories of meridians gradually

developed, the locations of acupuncture points became more firmly established. In subsequent periods, medical practitioners discovered effective acupuncture points through clinical practice. During the Jin Dynasty, Huangfu Mi categorized these points into the twelve meridians in his work "Zhen Jiu Jia Yi Jing." It was only during the Qing Dynasty, with the compilation of the "Compendium of Acupuncture and Moxibustion," that the number of acupuncture points was conclusively determined to be 361, solidifying the count of fourteen meridians.

Unlike the principles of "treating based on pain" and Ashi points, meridian points have specific names, locations, and meridian affiliations. Generally, they are used to treat diseases related to the respective meridian or its associated internal-external relationships. As widely applied acupuncture treatment points, meridian points are distinct from the concepts of "treating based on pain" and Ashi points.

3. Tendon-Related Points, Tender Points, and Trigger Points

The development of modern medicine has given new connotations to acupuncture treatment points. Tendon-related points, also known as tendon-related pathological points, are pathological formations occurring in the later stages of Jingjin disorders [4]. Professor Xue Ligong from the China Academy of Chinese Medical Sciences is a prominent figure in the study of tendon-related points. In his work "Zhong Guo Jing Jin Xue," he [5] extensively dissects the anatomical content of the twelve meridians from an anatomical perspective, introducing 312 accumulated tendon-related pathological points. Professor Xue Ligong [5] summarizes the characteristics of tendon-related points, including abnormal sensations such as pain, swelling, heat, sourness, and numbness, as well as the palpable presence of substances like local tightness, hardness, nodules, and strands of different shapes.

Tender points can be broadly or narrowly defined. In the broad sense, tender points refer to points where pressing during palpation by a physician induces pain, similar to Ashi points. In the narrow sense, tender points are exemplified by the tender points proposed by Xuan Zheren. In his work "Xuan Zheren Soft Tissue Surgery", Xuan Zheren suggests that tender points are located at the attachment sites of soft tissues to bones, specifically at the origin and insertion points of muscles [6]. The characteristics of tender points include regular distribution at the attachment sites of soft tissues to bones, the presence of localized aseptic inflammation, pain transmission, classification into primary and secondary tender points, and interconnection in point, line, surface, and three-dimensional areas with observable regularities.

Trigger points, also known as Myofascial Trigger Points (MTrPs), refer to highly sensitive tender points within taut bands of skeletal muscles. They are localized points of heightened sensitivity formed due to local muscle-fascial injuries, forming the theoretical basis for Western dry needling therapy. The earliest recorded mention of trigger points dates back to 1843 when a German doctor first described them as "painful nodules" within skeletal muscles. The term "Myofascial Trigger Point" was coined by American physician Janet Travell in 1942, referring to these localized areas of hypersensitivity within muscle bands.

Characteristics of trigger points [7] include pain, tenderness, nodules, stimulus response, muscle weakness, reduced range of motion in skeletal muscles, and restricted joint movement. In the 1950s, Dr. Janet Travell extensively applied trigger point therapy in clinical practice, and in 1983, she published the authoritative textbook "Myofascial Pain and Dysfunction: The Trigger Point Manual." It is evident that, as acupuncture treatment points, there are significant differences in the locations of tender points and trigger points (see Figure

1: Locations of Tender Points and Trigger Points).

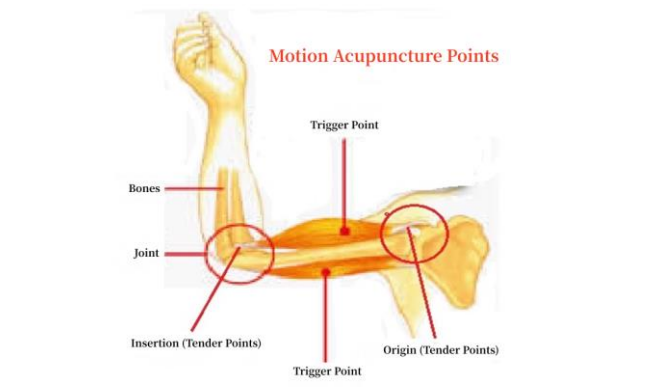


Figure 1: Locations of Tender Points and Trigger Points

Both in terms of theoretical origins and anatomical and pathological characteristics, there are notable differences among tendon-related points, tender points, and trigger points (refer to Figure 2: A Comparison of Tendon-Related Points, Tender Points, and Trigger Points).

	Tendon-Related Points	Tender Points	Trigger Points
Theoretical basis	Jingjin theory	Soft tissue muscle theory	Myofascial theory
Representative work	《Zhong Guo Jing Jin Xue》	《Xuan Zheren Soft Tissue Surgery》	《Myofascial Pain and Dysfunction: The Trigger Point Manual》
Representative person	Xue Ligong	Xuan Zheren	Janet G. Travell
Anatomical characteristics	The end of the tendons, between the muscles	Muscle's skeletal attachment points (origin and insertion)	The neuromuscular junction – the muscle belly of skeletal muscles

Figure 2: A Comparison of Tendon-Related Points, Tender Points, and Trigger Points

4. Characteristics of Motion Acupuncture Points

Based on the traditional Chinese medicine theories of acupuncture points, extraordinary points, and Ashi points, my innovative motion acupuncture therapy draws from three major theoretical sources: Professor Xue Ligong's "Zhong Guo Jing Jin Xue," Professor Xuan Zheren's "Xuan Zheren Soft Tissue Surgery," and Dr. Janet Travell's "Myofascial Pain and

Dysfunction: The Trigger Point Manual."

Distinguishing itself from various previous therapies, motion acupuncture therapy features five key highlights: motion acupuncture needles (acupuncture tools), motion acupuncture points (treatment targets), motion acupuncture technique (needle stagnating and lifting), motion acupuncture mode (dynamic needle retention), and motion acupuncture mechanisms (theoretical exploration of mechanisms).

Motion acupuncture points [8], as one of the innovations in motion acupuncture therapy, are specific treatment points unique to this method, also known as precise therapeutic targets, determined through examination by the physician. The elements of motion acupuncture points include pain points, tender points, trigger points, and tendon-related points. For physicians, motion acupuncture points primarily involve pain points, tender points, trigger points, and various forms of lesion reaction points. For patients, motion acupuncture points mainly manifest as reaction points, typically including not only pain but also nodules, muscle tension, and other lesion points, primarily appearing as pain points or tender points. It is important to note that the term "pain points" here can be further categorized into explicit pain points and implicit pain points. Explicit pain points cause self-perceived pain without touch or pressure, while implicit pain points only exhibit pain when pressure is applied or during specific movements.

Distinct from traditional acupuncture points or other treatment points, the characteristics of motion acupuncture points include: 1) local pain, 2) tenderness in related areas, 3) accompanying sensory abnormalities such as numbness, stiffness, and discomfort, 4) morphological changes such as circular, cord-like, hard nodules, and tense muscles, and 5) dynamic changes in position, form, and sensation.

Unlike entry points in traditional acupuncture, which generally refer to the point where the needle tip touches the skin, motion acupuncture points represent pathological or reactive points related to the disease. The entry direction for motion acupuncture points is typically around 360 degrees, approximately 1-2 cm from the target center, and can involve horizontal, oblique, or vertical needling. Regarding the depth of needle insertion into trigger points, needling occurs above the trigger point, with options for oblique or vertical needling, and the needle passed through or across the trigger point.

Pass through: Typically, the needle is inserted around the motion acupuncture point, and the choice of oblique or straight needling involves passing through the trigger point (refer to Figure 3: pass through the motion acupuncture point).

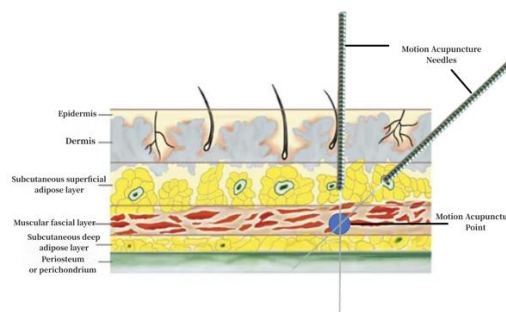


Figure 3: pass through the motion acupuncture point

Pass across: the needle is inserted around the motion acupuncture point, and the choice of horizontal needling involves traversing through the trigger point (refer to Figure 4: pass across the motion acupuncture point).

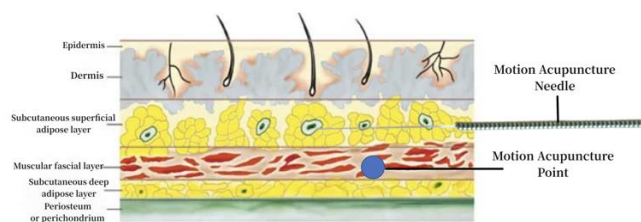


Figure 4: pass across the motion acupuncture point

5. Selection Method for Motion Acupuncture Points

Based on the above discussions, motion acupuncture points, as treatment points in motion acupuncture therapy, are not fixed and static; instead, they are dynamic. The method for identifying motion acupuncture points can be summarized as the "three steps and one process" (refer to Figure 5: Demonstration of the "Three Steps and One Process").

The three steps in motion acupuncture point examination are as follows: The first step involves the patient's complaint, where the physician conducts an inquiry and asks the patient to point out the painful spot or area, typically selecting the most painful point. The second step is dynamic testing, which involves observation by the physician. The patient is asked to perform relevant movements, and the physician dynamically assesses the range of motion to identify the responsible muscle. The third step is palpation by the physician, who touches and examines the relevant responsible muscle to locate the reaction point of muscle pathology. By palpating, the physician determines the motion acupuncture point, known as "Chuai Xue" in Chinese.

These three steps constitute a comprehensive process for determining motion acupuncture points, hence referred to as the "three steps and one process." Although motion acupuncture points are dynamic, this process allows for the quick identification of treatment points for motion acupuncture.



Figure 5: Demonstration of the "Three Steps and One Process"

6. Conclusion

Motion acupuncture therapy is a new acupuncture method developed by me based on over 30 years of clinical acupuncture experience, integrating traditional acupuncture techniques with modern theories such as muscle anatomy and fasciology [9]. This therapy involves the use of motion acupuncture needles and dynamic needle retention to treat diseases. During needle retention or needling processes, patients, under the guidance of the physicians, engage in specific movements in certain parts of their bodies [10]. The primary mechanism of action in motion acupuncture therapy is the release and treatment of motion acupuncture points through acupuncture and movement. This aims to release related fascial chains, restore the balance of the body's structure through the conduction effect of fascial chains, and achieve the goal of preventing and treating diseases [11].

Motion acupuncture points include Ashi points, pain points, tender points, and trigger points, as well as various forms of pathological reaction points related to tendon lesions. Among them, pain points are mainly based on Professor Xue Ligong's description of "tendon lesions" and "nodules" in "Zhong Guo Jing Jin Xue," including "collateral vessels" and "tendon lesions" in the "Huangdi Neijing." Tender points are mainly discussed in Xuan Zheren's "Xuan Zheren Soft Tissue Surgery," referring to the attachment points of soft tissues to bones, namely the origin and insertion points of muscles. Trigger points are discussed in Dr.

Janet Travell's "Myofascial Pain and Dysfunction: The Trigger Point Manual," referring to myofascial trigger points and tense muscles, among other aspects [12]. This constitutes the theoretical origin of motion acupuncture points and the theoretical basis for finding these points.

The characteristic of motion acupuncture points is their dynamic nature. Through the "three steps and one process" selection method and dynamic testing assessment, precise acupuncture point selection is achieved. Combined with the unique feature of dynamic needle retention in motion acupuncture, it effectively releases tension in muscles and fascia during movement, corrects disordered structures of muscles and bones, and achieves highly precise treatment. The results are rapid, stable, and beneficial for various pain conditions caused by soft tissue injuries, as well as functional and structural changes related to soft tissue injuries, such as digestive system disorders.

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一例车祸后突眼对症治疗引发高危糖尿病的案例报道

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[摘要] 糖尿病为临床常见疾病，治疗多以口服或注射类药物，尤其是严重性血糖升高病例。通常中医治疗为辅助。本案例是发生于车祸后，由于治疗眼病使用含碘药引起甲状腺调控异常从而导致空腹血糖指数达到高危状态，同时具备典型的临床症状，后经过严密的询问病史确定诊断和中医治疗方案，很快控制病情且短期内痊愈。本案例说明车祸外伤会导致一过性的应激反应引起甲状腺、肝功能、血糖等异

常，临床需谨慎判断。对于中医来说，症证结合，辨证明确，就能收获显著效果，也为后续类似的临床疾病如糖尿病早期的治疗及预防提供了一定参考价值。

[关键词] 车祸，突眼，甲状腺，糖尿病

[Abstract] Diabetes is a prevalent clinical condition, often managed with oral or injectable medications, particularly in cases of severe hyperglycemia. Traditional Chinese medicine (TCM) treatment is commonly used as an adjunct therapy. This case occurred after a car accident. The use of iodine-containing drugs for the treatment of eye disease caused abnormal thyroid regulation, which led to a high-risk fasting blood glucose index, and typical clinical symptoms. After a strict inquiry of medical history, the diagnosis and TCM treatment plan were determined, and the condition was quickly controlled and cured in a short period of time. This case illustrates that traffic accident trauma can lead to transient stress reactions causing abnormalities in thyroid, liver function, and blood sugar, which requires careful clinical judgment. For traditional Chinese medicine, a combination of symptoms and signs, a clear dialectical approach, can achieve significant results, and also provides a certain reference value for the subsequent early treatment and prevention of similar clinical diseases such as diabetes.

[Key words] car accident, exophthalmus, thyroid, diabetes

临床中，车祸后遗症与甲状腺、糖尿病等往往并无关联度，但一些严重的颅脑损伤患者中会有甲状腺功能异常，血糖异常的发生。本文记载一例车祸两周后突发突眼伴视物不清患者，在眼科看诊后由于使用含碘药物刺激甲状腺，进而引发血糖异常升高的病例，具体过程详述如下，希望对临床能有所启发。

1. 病例详情

患者，男，31岁。2021年6月22日来门诊就诊。患者主诉口干，眼干，喜饮水，易失眠烦躁易怒，眼睛干涩突起，视物模糊，视野有白光。2021年6月22日的临床报告显示空腹血糖24.79mmol/L↑，谷丙转氨酶60U/L↑，谷氨酰转肽酶73.5U/L↑，甲状腺素119.91ng/ml↑，游离甲状腺素16.7pmol/L↑，促甲状腺激素TSH2.65uIU/ml。面诊：面色晦暗，两颧色红，眼睛布满红血丝，舌诊：舌红苔白腻舌中央及两侧有剥苔，脉诊：弦细数。

根据患者临床主诉和舌象脉象等中医诊断依据，可以明确诊断为消渴症的上消证-肺阴虚燥热

证。由于空腹血糖过高，当地西医医生诊断为糖尿病高危，同时伴有甲状腺功能亢进，建议住院给予胰岛素降糖治疗。但患者既往体健，无相关病史和家族史，因此不愿意住院治疗，于是来我处寻求中医治疗。治病求因，虽然西医诊断明确，还是要找寻疾病产生的原因。详细询问病史了解到：患者两周前开车出了车祸，当时无明显不适，三天后出现双眼干涩感伴视物模糊，其余无不适症状，去眼科就诊，医生对症治疗，给予卵磷脂络合碘胶囊。患者服药后陆续出现口干、口渴、多饮、小便频多等症状，同时视物模糊、眼睛干涩也未有减轻，于是到内分泌科就医，检查结果如上。

卵磷脂络合碘胶囊是一种治疗中心性浆液性脉络膜视网膜病变、中心性渗出性脉络膜视网膜病变、玻璃体出血、玻璃体浑浊、视网膜中央静脉阻塞等的抗感染药物，是一种含碘制剂，药品说明中明确指出对碘过敏者禁用，对患有甲状腺疾病患者，患有突眼性甲状腺疾病患者等慎用。因此结合西医检查报告，分析患者年龄及既往史，考虑到消渴症状可能与服用卵磷脂络合碘胶囊有关，遂建议停药观察并复查血糖，如果血糖下

降，则说明与药物有关，并从中医诊断出发给患者开具中药对症治疗，处方如下：生地黄 12 克，当归 6 克，牡丹皮 9 克，升麻 6 克，生黄芪 30 克，北沙参 10 克，玉竹 10 克，甘草 6 克，桑叶 6 克，麦冬 10 克，炒扁豆 5 克，天花粉 5 克，蒲公英 10 克，陈皮 10 克，桂枝 3 克，柴胡 10 克，茵陈 10 克，虎杖 10 克，制狗脊 10 克，杜仲 10 克，牛膝 10 克，红花 10 克，桃仁 5 克，夏枯草 10 克，紫花地丁 10 克，生石膏 10 克，淡竹叶 10 克。6 月 26 日复查空腹血糖 12.32mmol/L，指标下降明显。基本可以肯定诊断思路正确，药物对血糖有影响，继续门诊随访。2021 年 7 月 3 日测空腹血糖 10.32mmol/L，复诊时患者自述所有症状均较前有明显好转（图 1），病人也越来越有信心，继续中药治疗。7 月 12 日测空腹血糖 7.83mmol/L，血糖指标持续下降，症状进一步好转。7 月 22 日，空腹血糖 6.76mmol/L，呈进行性降低（图 2）。8 月 8 日，远程随访，患者自诉空腹血糖已正常，症状未发，临床痊愈；患者自诉甲状腺激素水平也回归至正常值范围。同时患者舌像也从开始的胖大舌积粉苔剥苔逐渐转变成淡红舌薄白苔的正常舌像（图 3）。

< A	问诊单	< B	随访复诊单
● 患者主诉		● 明显好转	
主诉 口干，眼睛旁边有白光		舌苔照 	
■ 问题概要		● 与上次问诊的对比	
饮食情况 口渴想大量喝水、喜欢喝冷水、愿意干燥、饮食胃 口一般		饮食情况 口渴想大量喝水、喜欢喝冷水、愿意干燥、饮食胃 口一般	
二便情况 大便黄、放屁多、放屁臭、小便清		二便情况 大便黄、放屁多、放屁臭、小便清 新增：大便黄	
睡眠与情绪 睡眠深、夜醒常出现在3-5点、易怒、思虑较多、易 烦躁		睡眠与情绪 睡眠深、夜醒常出现在3-5点、易怒、思虑较多、易 烦躁	
身体感觉 平时易出汗、眼睛视物模糊		身体感觉 平时易出汗、眼睛视物模糊	

图 1.初诊单和复诊单详情。A:初诊时 6.22 号问诊单情况；B:随访复诊时 7.3 号问诊单情况；二者前后对比发现：较初诊记录，复诊时患者症状大部分消失，呈明显好转表现。

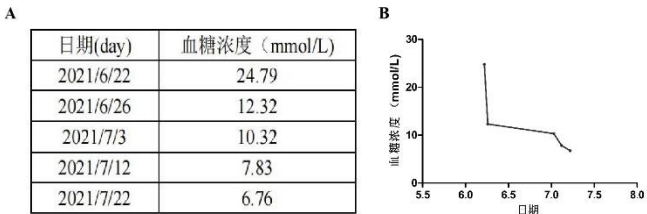


图 2.患者不同时间-血糖值及其变化折线图。A:不同时间点血糖值；B:不同时间-血糖值变化曲线图。从图中可以发现，随着时间变化，患者血糖值明显降低。



图 3.不同日期患者舌苔的表象。A: 6 月 22 日舌象--舌红胖大，积粉苔剥落苔，舌尖及中央区域无苔，提示胃阴亏虚，正气亏损，痰浊难化；B: 6 月 26 日舌象--舌红苔薄白中央剥苔，提示正气渐复，痰浊已化，但胃阴仍显不足；C: 7 月 3 日舌象--舌红苔薄右侧舌根处舌苔稍厚腻，提示气血充足，胃阴已经恢复，但体内痰浊仍在；D: 7 月 22 日舌象--舌淡红苔薄白，提示正气已恢复，气血调和，脏腑功能正常。

2. 治疗思路

中医对糖尿病对认识由来已久，遍及糖尿病发病的前中后期。中医历史上没有“糖尿病”这个病名，而是根据临床症状：多饮、多食、多尿、消瘦，将此病命名为“消渴”，病因多为体燥伤阴，饮食情志多为该疾病外因，涉及脏腑为肺、脾、肾三脏。“上消”多为肺热阴伤，影响肺脏为主，症状以多饮，口干，烦躁，脉浮数为主。“中消”

多为胃阴亏损，症状以多食，消瘦，脉洪大为主。“下消”多为肾阴亏耗，临床表现为多尿，消瘦，小便浑浊，脉细数为主。

该病例初诊时，舌象表现为舌前舌中花剥苔，舌根部厚腻苔，脉洪大，提示患者素体痰湿热盛（喜烟酒）病邪外因引起热盛加重津液亏损，临床选药多以滋阴凉血，清肺润燥的中药，如沙参，麦冬，石膏，玉竹，天花粉，生地黄，牡丹皮，薄荷，桑叶，同时为了预防疾病传变，入损中焦，加了健脾疏肝益肾的中药如：白扁豆，陈皮，黄芪，柴胡，茵陈，虎杖，杜仲。真正做到了一剂知三剂已，药到症减。

3. 讨论

本病例从患者客观症状、门诊血生化检查都极易与糖尿病相混淆。然而在详细询问病人病史及发病过程后通过鉴别诊断，可以得出正确判断。清晰的病情分析及鉴别诊断是治疗的重要依据，本病例症状和检验指标的迅速好转也与此密切相关。

从本病例的发病过程和治疗过程来看，由于患者既往体健，虽有不良嗜好（嗜烟酒），但体检均未发现异常，所有临床症状均发生于车祸后，且血糖指标突然升高，因此诊断为一过性应激性血糖升高。临床鉴别诊断可以排除干燥综合征、亚急性甲状腺炎、糖尿病等疾病。首先是眼睛视物模糊，有白光，服用治疗眼睛的药物卵磷脂络合碘后症状加重，出现突眼症状，且临床糖尿病症状：口干，口渴，喝水多，小便多以及乏力等表现突出。血生化检查发现：空腹血糖升高，甲状腺素升高。建议停药卵磷脂络合碘后复查血糖，发现血糖数值减低，后复查甲状腺功能正常，由此可见：车祸有可能是导致甲状腺功能一过性异常、血糖异常的诱因。而卵磷脂络合碘的药物副作用则加重了病情的进展。当患者在停药后，空腹血糖立即下降，症状仍存在，采用中药对症治疗一月余，症状完全消失，且复查血糖均恢复正常，这也间接证实了我们的推断。

碘为合成甲状腺激素的原料之一，正常人每日碘需要量约为 $100\sim 150\mu\text{g}$ 。甲状腺能特异性浓缩和聚集碘，其含碘量约为人体内总碘量的 80%。碘过量则可引起甲状腺功能亢进症。卵磷脂络合碘是碘的化合物，服用后导致体内碘含量增加，进一步加重甲状腺功能亢进。众所周知，甲状腺与血糖的关系非常密切，甲状腺激素是主要的升糖激素，当机体处于应激状态时甲状腺激素合成、分泌增多，加速肠黏膜吸收葡萄糖、提高外周组织利用糖以及糖原的合成与分解，为机体提供所需能量，就有可能出现血糖升高的情况；同时一过性应激状态下甲状腺激素又与其它升糖激素：肾上腺素、胰高血糖素和生长激素具有协同作用，进而升高血糖，供机体需求。本例患者的症状及甲功、血糖指标数值很好的反映了此现象。

垂体是人体内最复杂的内分泌腺，包括腺垂体和神经垂体，其通过与下丘脑形成调节与反馈机制，进而影响人体多种激素水平及水盐代谢。有文献报道，在颅脑外伤后常因直接或间接损伤导致垂体功能障碍，因为颅脑外伤易导致脑部血液循环发生障碍、脑部缺氧以及一系列应激反应等，可对下丘脑、垂体的功能造成严重影响 [1-2]，进而影响下丘脑-垂体-肾上腺皮质轴、下丘脑-垂体-甲状腺轴、下丘脑-垂体-性腺轴等的内分泌调节功能，导致代谢紊乱，影响疾病的预后及转归。本例患者车祸情况不严重，属于一过性应激反应，因此只是表现为机体甲功指标一过性短暂升高。有研究证实创伤应激时，血中胰岛素水平可显著降低，组织细胞的胰岛素受体数目可显著减少 [3-4]，这些也是造成本例中血糖水平增高的可能原因之一。这一结论验证了本例病案的疾病发展、进展及转归的一系列变化情况，为后续类似的临床疾病的诊断提供了一定参考价值。

4. 经验总结：

从本案例的发病治疗到痊愈，提醒我们医疗工作者在应对突发疾病时，寻找病因至关重要。了解

疾病的前因后果，并逐一排除，给身体一点时间。内分泌系统疾病，影响因素很多，病因尤其复杂，各系统之间的相互影响因素要充分考虑，同时也要考虑外伤、药物间的影响。外伤导致的一过性甲状腺、血糖的紊乱，甚至有可能性激素等内分泌紊乱值得临床重视。另外含碘的药物虽然不能直接影响血糖指标，但会通过垂体调节甲状腺进而影响全身血糖水平；同时在未辨明急症病因时，中医中药的使用对改善患者症状也尤为重要。内分泌疾病涉及脏腑激素等因素较多，中医辨证分析临床治疗内分泌紊乱时有其巨大优势。

本案例中医诊断为典型的消渴证中的上消证，消渴症见多饮，多尿，多食，消瘦等症状与现代糖尿病相似。对消渴证的记载最早见于《黄帝内经》《素问·奇病论》：“帝曰：有病口甘者，病名为何？何以得之？岐伯曰：‘此五气之溢也，名曰脾瘅。夫五味入口，藏于胃，脾为之行其精气，津液在脾，故令人口甘也；肥者令人内热，甘者令人中满，故其气上溢，转为消渴。治之以兰，以除陈气也’”。消、渴均是以症状而命名的，说文解字中解释：消：涸，尽也，为消瘦、消耗、消散之意；渴，则是干而欲饮之意。消渴是对一个疾病不同发展过程的整体描述，古人也根据症状和涉及的脏腑不同而分为上消证，中消证，下消证。本案发病急病灶仅涉及上焦脏腑定位在肺，症状以口渴多饮为主证，用药以清热滋阴药为主兼用宣发速降之法在治疗时及时阻止疾病转变，效如桴鼓；对糖尿病早期治疗及防护有重大意义。

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代田文志及其“头部针刺法”

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内容摘要：代田文志是日本近代著名针家，其既继承古典针灸学，又将现代医学融入针灸疗法，其学术思想对日本和中国针灸界影响颇大。本文对代田文志的生平、学术观点的转变、头部针刺法学术思想以及它对中国头皮针疗法的影响进行了探讨。代田文志创立的“头部针刺法”非常具有特色，其刺激部位主要位于顶骨的矢状缝上，如督脉的囟会和百会，足太阳脉的通天，足少阳的正营与承灵诸穴；他操作时以压痛点作为针刺点，深度一般为 5mm 左右，留针时间一般为 10-20 秒；他还发现了针刺头部影响身体上压痛和敏感的规律；提出以体表压痛点的变化作为判断疗效的标准；针刺以后再予“整体疗法”治疗。代田氏“头部针刺法”可称为“头部穴区针刺疗法”，对我国方氏头皮针和汤氏头皮针的创立和发展起了极为重要的推动作用。

关键词：代田文志，生平，学术思想，头部针刺法

在现代头皮针的发展史上，有两位很少被关注的前辈，一位是黄学龙先生，他在上一世纪 50 年代初创立“头部穴区疗法”（即“头皮针疗法”）^[1]。另一位是本文介绍的日本代田文志，他 1954 年曾任日本针灸师会副会长。1958 年《上海中医药杂志》第 4 期刊载了代田文志“头部针刺的治验例”的译文，介绍了代田先生针刺头部穴位，以治疗躯体和内脏疾病之法^[2]。但有人认为该文“对于头部腧穴的重视及应用上并没有带来更大的促进作用^[3]。有鉴于此，笔者收集了早年有关代田先生的生平及其“头部穴区针刺法”的各种报道，总结了代田氏头部穴区针刺疗法的学术思想。可以看出，它不仅在现代头皮针的发展史上占有重要地位，而且对于促进现代头部穴区疗法的发展仍然有极大的创新性。

1. 代田文志的生平

代田文志是明治以后的日本针灸界巨星，其毕生为针灸事业奋斗，既继承古典针灸学，又将现代医学融入针灸疗法，其学术思想对日本和中国针灸界影响颇大，推动了针灸疗法的发展。

1974 年代田先生辞世后，一些杂志发表了悼念文章，对其生平与学术思想进行了探讨^{[4][5]}，1975 年日本《医道》将 3 月号作为“代田文志氏追悼号”特辑。

1900 年 9 月代田文志出生于长野县下伊那郡河野村，为四子。父代田安吉，母やすえ（安惠）。1913 年毕业于伊那郡寻常高等小学，1915 年龙东农校毕业，在当地小学担任代课老师。19 岁时就读于东京市立锦城中学。20 岁因肺结核大咯血而休学，在顺天堂和北里医院疗养院住院二年。喘息、痛苦、缠绵不愈，让他烦恼和失去希望。此时，附近日莲宗寺院的一位年轻僧侣前来探望，于是他便出家了。后到信州疗养，但因痔疮手术的误伤，导致腹泻。21 岁再次到东京上中学，又因大咯血，不得不回家修养。之后又因中耳炎，听力下降。24 岁听力恢复后，在小学任代课教员。半个月后，由于学生和家长抵制，于是离开家乡，到久佐中学当教师。一直到 25 岁身体才恢复健康。1927 年母亲去世，1930 年父亲去世。

代田在治疗疾病期间，广泛阅读了各种书籍，主要为诗歌、东西文学。还写了许多感想、随笔和短歌。23 岁时，受到与谢野晶子、子规等人的作品影响，加入了和歌的研究组织，师从和歌界的中心人物岛木赤彦。1926 年早稻田大学文学部校外生结业。

代田认为佛教中观音菩萨救苦救难，具有“观音力”，于是决心从医，普度众生。26岁时他根据《和汉三才图会》，自创按摩法，并治愈了父亲的精神异常。此消息传开后，村民认为代田是医生，能治好治不好的病，于是纷纷前来。他每天忙于为民众医治各种疾病。这一年秋天他获得了“按摩针灸医生”资格。1927年拜针灸大家泽田健先生为师，直至1938年泽田健先生去世。代田先生是泽田先生的高足，深得泽田先生古典针灸医学和“太极疗法”之精髓。在伺诊期间，他将泽田先生的话记录下来，向日本和世界介绍了泽田流派，他还先后出版了介绍泽田流派针灸的著作。

代田还将针灸疗法与现代医学相结合，是日本针灸现代化的开拓者之一。1929年12月其作为东京帝国大学解剖学教室的研究生，在西成甫教授的指导下研究“人体及经穴的局部解剖”。1931年在日本红十字社长野支部医院读研究生，一边学习现代医学，一边进行了针灸治疗的比较研究。1937年与教师森井结婚。1939年长子文彦出生。1941年在岩手医学专门学校解剖学教室，由二井一马教授指导下进行经穴的局部解剖研究。1942年起任日本针灸学会会长。1944年起在长野市针灸研究所工作。1947年师从三重医学专门学校石川日出鹤丸博士，研究其向心性自律神经双重支配法则学说，即皮肤→内脏反射，内脏→皮肤反射。1947年起接受国立刀根山医院院长渡边三郎博士关于功能病理学的指导。1948年任京都大学生理学教室日本针灸学会干事，师从金泽大学病理学教室石川大刀雄教授，研究化学感受体系统学说及内脏和皮肤血管之间的反射，并负责其所创研的皮电针灸临床研究。1949年任长野县针灸师会会长。1954年任日本针灸师会副会长。1960年任日本针灸皮电研究会会长。1965年在东京开办了井之头治疗院，从事临床和研究。1974年去世。其子文彦克绍父业。

代田天资聪明，多才多艺，通德、汉、英语，即使年过七十，依然每天早上就跟著广播，反复学习外语。虽身体孱弱，然刻苦勤奋，笔耕不辍，其子回忆经常坚持写稿到每晚两点^[6]。代田先生创作的短歌大概有一万首^[7]。

据《日本医道》编辑部称：代田先生的针灸学著作有《针灸治疗基础学》《泽田派见闻录 针灸真髓》《针灸治疗临床学》《针灸治疗的实际》《针灸临床笔记》等 27 部。从 1934 年起，还在《日本医学》《自律神经杂志》《东邦医学》《针灸月报》等 10 余种杂志上发表了众多论文，这些论文主要是各种疾病的临床案例和论述。因不清这些杂志出版的周期，许多论文又为连续刊载，故其数量难以统计。代田自 1959 年起“曾经连续八年几乎每期都在给《日本医道》杂志写文章”，这些文章，1972 年陆续结集为《针灸临床笔记》四卷出版。该刊主编户部宗七郎先生认为代田先生在针灸临床上时间之长，内容之丰富，在日本针灸界首屈一指^[8]。

代田重视临床资料的收集，曾发誓积累的临床试验。他一生不断地记录自己应用针灸疗法的诊疗经过和体会。其弟子盐泽幸吉称：自 1940 年至 1968 年，积累了大约 4 万 5 千份病史^[4]。

1975 年其弟子亲友为了报答先生之余泽，表彰先生之遗德功业，成立“代田文志先生表彰会”，募集资金，设立“代田奖”，出版先生著作，奖励对针灸事业作出显著成就者或学术论文。

2. 代田文志的针灸生涯

代田的针灸学术大致分为前期和后期。前期（大约 1927 年到 1943 年）主要是随恩师泽田健先生学习，醉心针灸医学古典时代，研究经络和经穴，努力推广“整体疗法”（即“太极疗法”），使泽田健先生的医术广为人知，并形成

知名的泽田流派。先后出版了《泽田流闻书 针灸真髓》（以下简称《针灸真髓》）《针灸治疗基础学》《针灸治疗临床学》《灸疗杂话》《续灸疗杂话》等著作。

在《针灸临床治疗学》的自序里，代田写到：“我最初学习针灸术时，未曾料到针灸是如此优秀的医术。但幸运地能够师事在针灸医学中屈指可数的名人泽田健先生，这时方恍然认识了针灸古道的优秀的真正价值。从此立志想以临床事实来证实针灸术的真正价值，十数年间用尽苦心研究治疗，积累起不下数万病者的亲试经验，从而对针灸术的优秀事实惊叹崇敬与年俱深。”

^[9] 为了证明了东方古医学所具有的价值，代田先生从 1931 年开始，便在长野红十字医院进行了现代医学各科室的临床研究，后来又在东京大学解剖学教室就开始了用尸体对经穴进行局部解剖。

代田先生的针灸学术后期，约从 1944 年~1945 年开始。其学术观点转为追求针灸医学研究的科学性，促进针灸医学与现代医学融合，并从科学辩证法的角度对其进行发展，成为将现代医学理论和针灸临床联系在一起的现代派针灸。

泽田先生去世后，代田继承泽田先生衣钵，成为泽田派的领军人物。但是代田清醒地意识到，针灸医学还需要用现代医学对其进行探求。代田认为：我们尊重针灸经典的历史意义，但不盲目相信，而是试图发现其中隐含的科学性。研究的态度始终力求科学的^[10]。

他又在《（以治验例为主）针灸治疗的实际》（以下称《针灸治疗的实际》）序言中介绍了其早年对经络和穴位的认识是坚定不移地肯定，试图证明古代针灸学真正的价值，其在后期则注于针灸学的科学发展。他认为针灸医学要发

展，必须扩大视野，与现代医学接触，在继承和发展传统针灸学说的同时，要进行反思，追求其科学性，以推动针灸学科不断进步发展。其夙愿就是建立一个将中西医学兼收并蓄的新针灸医学。代田的转变并非突然开始的，而是很早就慢慢形成的^[11]。1940 年所发表的论文《经络经穴的临床研究》中，就对东方医学持批评立场，强调确立科学研究方法的要点。也就是说，否定了东方医学盲目固执的信奉，强调了将其科学化发展的必要性。1947 年 7 月驻日美军发布了针灸禁令，三重医专石川日出鹤丸教授（1878-1947 年）多次去厚生省对针灸疗法的科学基础作了说明，认为针灸疗法不可废除，并提交了关于《关于针灸术》的报告书。由于日本战后交通状况非常恶劣，石川先生在三重医专的教授会议上因中风倒下，不久便去世了。12 月日本颁布了针灸指压身份法，针灸疗法得以存续。可以说石川先生是为针灸而殉职。^[12]但是石川氏以生理学来说明针灸治疗，认为古代的“经络说”太质朴，且结合中国古代的自然哲学概念如阴阳五行学说，于是斥为荒唐无稽之谈，与传统“经络治疗派”相对立，于是引起了论争，并立即引起了日本针家的重视关注。米山博久氏在“关于经络的争论”（针灸论丛）中记述了论争的经过^[13]。1946 年代田先生出版的《针灸治疗的理论与实际》，1947 年发表《针灸医学的新方向》一文中，则进一步明确立场。代田先生认为：经典中的经络还需要进一步修正，必须从科学角度加以探究，给予新的解释。当时不仅针灸界，而且大部分从事东方医学研究的同道都持反对意见，但是他还是沿着自己的道路坚定地前进。可以说代田文志是日本针灸现代化的领军者。

日本针灸界“古典”、“科学”两派之争论也传到国内。1955 年张兰泽先生撰文认为：“日本的针灸学，大概可分为古典和科学两派。

古典派是根据《难经》《甲乙经》等十四经络而施术的，科学派是由泽田健氏發明太极针法，传徒代田文志氏发展而成。此派排除古籍，否定经络，采用自律神经刺激学说来解释针灸治病的原理”^[14]。1957 年谢永光先生也在《中医杂志》上发表类似观点，并称“许多日本的针灸学者无疑为此感到困惑，有几位日本朋友曾经不断向他征求过意见。”^[15]张兰泽先生认为“这两派的学说，我们都宜采取，不宜偏废，针灸学不应滞留于一个有限度的进步上，必需随时代而前进，尽量吸取现代科学新知，加以洗炼，才能改进与提高。但是针灸学是中国几千年来临床治疗经验的积累，古典派的立论，并非完全没有科学基础的，我当以科学方法加以研究，发扬其优点，认识它的缺点，循序渐进，不可操之过急。”现在看来，张兰泽先生的观点无疑是正确的。

3.代田氏的“头部针刺法”学术思想

3.1. 从压痛点出发

泽田健先生临证时注重望诊与切诊，对代田氏的影响很大。从上世纪三十年起代田氏就发现并关注，身体某个部位有压痛或过敏时，不直接刺激该部位，而是采用远道刺，这些疼痛或过敏可减轻或消失。据代田先生在 1966 年发表在《日本医道》4 号的“新经络现象”称：其在《灸疗杂话》（1942 年）《针灸治疗临床学》（1943 年）中已有记录，针刺头部百会穴，可减轻枕顶部的压痛，缓解紧张，脊柱上的压痛减轻或消失；以后又发现针刺前顶或囟会，可使任脉上的膻中、中脘压痛减轻^[16]。1946 年他在《针灸月报》第六辑上发表“关于针灸与压痛点的关系”一文，开始对针灸与压痛点的关系进行研究。代田氏先后发表四篇“针灸对压痛的影响研究”的系列报道，第一次发表在 1952

年第一次日本针灸治疗学会论文集，第二、三次报道，发表在 1953 年第二次日本针灸治疗学会论文集。第四次报道便是关于头部针刺的论文，题目“为头部针灸引起身体压痛和过敏产生的影响-针灸对压痛的影响研究(第 4 报)”，则发表于 1957 年《日本针灸治疗学会志》第 2 期上。该杂志为油印本，其文尾有 1956.10.20，应是文章完成的时间^[17]。经初步统计，代田在杂志上发表关于头部针刺的论文计 6 篇。1958 年《上海中医药杂志》第 4 期发表了徐悟立和李境新译的代田文志“头部针刺的治验例”，系译自 1957 年《汉方临床》第 6 号的“头部针刺的治验例”一文^[18]。

代田对头部针刺法进行了深入研究后认为：针刺头部百会、前顶、囟会等穴，穴位，可以缓解或消除身体部位的压痛和过敏，较其他方法更能显著提高疗效，已成为其在临床上不可缺少的针刺方法。代田先观察针刺百会、前顶、囟会等穴，自 1954 年 4 月开始，主要观察针刺头部承灵和正营穴两穴。1957 年发表的结论计有七点，还附有新潟市中岛义马医生的来信，报告其在针刺头部穴位同时应用传统针灸治疗顽固性肩痹、“胃酸过多症”、“肝臟机能障碍”，取得了很好的成绩。还介绍了刺激点和操作方法。关于头部刺针之原理，代田氏认为：“目前还说不清楚”，“可以推定是镇静自律神经中枢的异常兴奋，从而治愈身上的疼痛。”^[15]

1966 年代田文志出版了《针灸治疗的实际》，从现代医学的角度来看的原因、症状、也记载了治疗方法等。代田认为本书也可以说是第二本《针灸临床治疗学》。在该书总论的第十四章列有“头部刺针及其应用”。经过十余年的临床探讨和研究，代田对“头部刺针”进行了总结，详细的论述分为头部针刺的目的、重要刺针点、刺针的方法、头部针刺及其影响、治疗原理、头部刺针的应用实例等六个部分。^{[11][231]}

²⁴⁷1967 年代田又发表了“头部刺针与身体压痛的关系”^[19]，对“头部刺针”研究进行了回顾，再加上一些见解。该文分为“关于头部刺针”“头部的刺针点”“刺针的方法”“病例”“总结”。文末注有时间：1966 年 10 月，当是该文完成日期。

3.2. 部位与操作

现根据 1966 年《针灸治疗的实际》与 1967 年发表的“头部刺针与身体压痛的关系”一文，对代田的“头部针刺”疗法的部位与操作简介于下。

3.2.1 部位为位于顶骨矢状缝及其两侧

代田认为头顶部几个重要的经穴，都可用以刺针。这些重要经穴，据《针灸治疗的实际》所载有督脉的百会、前顶、囟会，膀胱经的通天、承光，胆经的承灵、正营、目窗、和悬颅，计 9 穴。而该书中的针刺头部之穴，仅有督脉的百会、前顶、囟会，膀胱经的通天，胆经的正营、承灵 6 穴，较 1956 年仅增加了膀胱经的通天穴。其刺激主要部位位于顶骨的矢状缝及其两侧。在“神经痛的治疗和高级中枢”一文中，还提到上天柱或天柱穴，以及风池穴^[20]。可见其临床所用之穴并不局限于常用之穴。

3.2.2 针刺方法：

临床时需用手指或铅笔粗细的木头尖端削成圆形，在穴位附近寻找压痛点作为针刺点。反应强烈处，一般比其他部位柔软，用手指按压也会有软绵绵的感觉。

一般所用的针为 3-5 号（0.20-0.235mm）长度为寸三，代田用的为特制的 5-8 分（1.5-2.4mm）的短针，质地为银、金、或不锈钢，

代田多用不锈钢针，也经常使用硬质银针。深度一般为 5mm 左右。

进针可以是管针法，也可以是捻针法。代田大多用 5-8 分针。一手握住针柄，略加捻转，便能轻松插入。留针时间为 10-20 秒即可。但神经中枢异常兴奋情况下，也可留针 1-5 分钟。如不奏效，拔出再刺入他处。虽然忘记拔针没有什么坏处，但让病人回家后发现，会影响心情。

若与 50 年代相比，明确了所用针具的材质主要为不锈钢，针具的直径变粗了，刺入深度也增加了，留针时间也根据病情延长了。

3.3. 针刺头部对身体的影响

针刺头部对多种疾病有效。其对身体的压痛和感觉过敏，以及内脏的痛觉过敏、感觉过敏、分泌过剩、运动亢进等，表现出很强的镇静作用。针刺头部对身体部位的影响，是压痛和过度敏感（其中包括瘙痒感）的减轻或消失，其结果是痛觉过度敏感得到了缓解。因此对神经痛和内脏疼痛的镇静也有积极影响。有时内脏的违和感、痉挛和呕吐也会镇静下来。然后高级中枢的亢奋情绪会得到缓解，心情也会变得明朗、平静。

一般而言，针刺头部对身体上的压痛和敏感的影响有其规律：即正中线对正中线，侧线对侧线，前面对前面，后面对后面，侧面对侧面。不仅是躯干，手足也是如此。代田先生曾多次对针刺百会、囟会、通天、前顶、承灵、正营等穴后出现的主要效果一一列举，计有 10 点。①. 针刺百会后，精神亢奋整体上得到缓解，特别是项部、腰背部正中线（督脉）上的压痛及过敏减轻或消失（交感神经的兴奋得到缓解）。其镇静效果也可影响到膀胱经。②. 针刺囟会，特别是胸

腹正中线上的压痛减轻或消失。但是大多数情况下，胸腹部的压重感和不适感会缓解，呕吐、胃痉挛和食道狭窄也会得到缓解（副交感神经会得到缓解）③.针刺通天，可使颈部肩背部背腰骶部膀胱经的压痛减轻或消失。而且其镇静效果可波及正中线上的督脉。④.刺针囟会或前顶，胸腹正中（任脉）上的压痛和过度敏感减轻或消失。而且其外侧的胸腹部也有镇静效果。⑤.针刺前顶穴，有时也会出现与百会相同的效果，但有时也会出现与囟会相同的效果。⑥.刺针承灵，背腰部压痛和过度敏感减轻或消失。⑦.刺针正营，可减轻或消失胸腹部压痛和过度敏感。⑧.头部刺针（百会、前顶、正营、承灵等），可减轻足底压痛和过度敏感。⑨.刺通天、针承灵或正营，上肢曲池、手三里、合谷、郄门、少海等，下肢中封、三阴交、足三里等压痛减轻或消失。⑩.多数情况下，只影响同侧，不影响另一侧，有时也会在一定程度上影响到另一方。有时针刺百会、前顶、囟会等部位正中线上为主，但左右两侧也会出现。⑪.头部的刺针可以使胃肠等内脏的过敏和疼痛得到镇静，抑制其运动的过度亢进。

以上现象，代田在《日本医道》1966 年 4 号“新的经脉现象”一文中认为：这不是一般所说的古典经络，而是全新的经络现象。或者说，与其说是经脉现象，不如说是刺激传导系统更为恰当^[16]。

3.4. 以压痛点作为判断疗效标准

代田氏在针刺头部诸穴前，根据患者之疾病、症状等，先在体表寻找压痛点，然后根据这些压痛点所在的位置，在头部寻找压痛点进行治疗，并观察体表压痛点的减轻或消失。

也就是说，观察这些压痛点的变化判断治疗效果。

如何寻找压痛点，代田先生在《针灸临床治疗学》中介绍颇详，此不赘述。其治疗时不根据患者的症状，而以疾病在体表压痛点作为判断疗效之标准。这是因为压痛点的敏感程度较症状为高，压痛点的变化，更能反应出针刺头部穴位前后症状的改变。美国著名针家金观源先生在《针灸临床反射学》中认为：“许多疾病在治疗的初期，症状的变化可以微小而不被人察觉是否好转，但此时在其体表反射区的一些反映点上很可能已有明显的变化，如压痛敏感程度的减轻或消失，敏感位置的移动、对称关系的恢复、针周出现红晕，等等。只要仔细地观察与比较体表，便能有所发现。这也可以用来指导及时的反馈调控，而不必等症状的变化出现才做，因而就抓住了治疗的有利时机，利用人体体表反射信息的改变来指导反馈施治，亦是针灸疗法不同于西医治病的特色^[21]。

代田氏在 1967 年发表的“针刺头部与身体压痛的关系”一文中，列表介绍 9 位患者针刺前后压痛点的变化。如一 60 岁项部和肩部疼痛，压痛点分别在项下部、右膈俞和左足三里处，治疗前项下部、右膈俞压痛为+++，左足三里压痛为++，针刺百会、右通天后，项下部、右膈俞压痛为+；针刺左正营穴后，左足三里压痛为+。一位 46 岁患者，患低血压，至阳穴压痛为++，左三阴交压痛为++，针刺百会和左正营穴后，至阳的压痛为±，左三阴交压痛键位±。可见以压痛点作为判断疗效标准，是非常敏感的。

3.5. 关于复治问题

增加疗效和巩固疗效，是针灸临床上最为重要的问题。所以在代田氏介绍的病例中，几乎都是针刺头部相关穴位后，留针时间很短，又继续选取躯体四肢穴位，予以针刺或艾灸。

对于这种重复取穴治疗，中国古代针灸家早就予以注意。唐《千金》中就有“针后复灸”的记载^[22]，现今一些针家在治疗顽固病症时，也往往在针刺之后，或加耳穴贴压，或加穴位埋线，以增强疗效。金观源先生在《针灸临床治疗学》中对此作了非常详细的论述和发挥^{[22]136}。代田氏的病例中基本都是先在头部针刺，待压痛点减轻或消失后，另根据病情再取穴进行治疗，是继承和发展古代针家之经验。

在《针灸治疗的实际》一书中，代田氏特别专章介绍针刺头部疗法，还写到“在本书的治验中，头部针刺被大量应用”，可见对其的重视程度和在临床上广泛应用。“头部针刺的应用病例”一节中记载了顽固性肩凝、胃酸过多症、神经性食道狭窄、肋膜炎后遗症、胃部膨满感、神经痛等六个验案，都是先在体表寻找压痛点，再针刺头部相关腧穴，之后还进行整体调节，以期取得满意的疗效。其目的也是为了巩固和增强疗效。

所谓“整体治疗”，又称“太极疗法”或“大成疗法”。为其师泽田健先生在长期治疗当中苦心体验而得来的。泽田先生认为：任何疾病都是由于五脏六腑的不调和而起，因此不论任何疾病只要调整五脏六腑，则疾病自然治愈。《针灸临床治疗学》记载了整体治疗的基本穴位为：中脘、脾俞、肾俞、次髎、身柱、曲池、左阳池、足三里、泽田派太溪（照海）。还对这些穴位予以详细的解说^{[9]3-12}。代田认为对症治疗也非常重要，其在《针灸临床治疗学》中专列“对症治疗经验穴”一章，故在临症时，应该随机应变，予以加减。

3.6. 治疗原理

针刺头部产生效果的原因，有很多部分可以通过皮肤和内脏反射来说明，针刺头部诸穴，可以使身体部位的压痛和过度敏感得到缓解，而且对内脏的痛觉过度敏感和运动亢进也有镇静和抑制效果。

究其原因，代田认为有关治疗效果原理的复杂问题，还没有完全解释清楚。可以推测，广义上认为是皮肤-内脏反射的表现，但严格来说，应该分为皮肤-皮肤、皮肤-肌肉、皮肤-内脏的关联和反射。其效果是皮肤-内脏反射的原理和高级中枢的抑制作用相结合的结果。针刺头部穴位，根据皮肤-内脏反射的原理，可对高级中枢大脑和间脑的兴奋状态，产生抑制作用。由于高级中枢的兴奋导致身体某些部位出现压痛和敏感，得到了抑制，从而内脏的过敏、痛觉过敏、运动亢进、分泌过度等得到抑制和调整。自律神经高位中枢的调节作用被头部刺针提高，这是产生效果的主要原因。但这种现象并非任何情况下都能发生，只有在刺激性升高的情况下更有效。

关于皮肤与内脏反射，京都大学生理学教室的石川日出鹤丸教授有庞大的研究业绩。而且高位中枢的大脑和间脑是施加于体表的针刺表现治疗效果的地方，是针灸治疗原理的重要组成部分。金泽大学生理学教室石川大刀雄教授，也从病理学的角度研究了其父所做的生理学研究，进一步发展了病理学。他的业绩被归纳在各种论文和《内脏-体壁反射》一书中。

代田还认为针刺头部穴位所产生的效果，与经络现象非常相似。如果我们不把古典的经络视为完全的经络，允许更自由的解释的话，可以说针刺是在经络上出现的。

3.7. 对中国头皮针疗法之影响

代田的著作《泽田派见闻录 针灸真髓》，1958 年由承淡安先生译成中文出版，《针灸治疗临床学》也由胡武光 1957 年译成中文出版。两书的出版推动了中国针灸的普及发展。2008 年学苑出版社又应读者要求，两书再次出版发行。至于其发表的论文译为中文，据《五十年来针灸文献（中文）索引（1908-1958）》记载，计有 16 篇，^[23]为该书中译文最多的“外国作者”。代田的著作和论文促进了中国针灸学术的研究与发展。

1958 年对中国头皮针疗法来说，是一个非常重要的时间节点。这一年，最早创立“头部穴区疗法”的黄学龙先生辞职回乡；方云鹏先生在“给一位患者针刺“承灵”穴位治疗感冒时”，同时治好了这位患者的腰疼病，开启了他对头部刺激点的研究；汤颂延先生则调至新成立的上海市针灸研究所；代田先生“头部针刺”法的论文被译为中文，介绍到中国。代田先生的译文延续和促进了中国头皮针的发展。对方氏头皮针和汤氏头皮针的形成和发展，起了重要的推动作用，也促进了我国头皮针的兴起。

方氏头皮针的创立者为方云鹏先生。方云鹏（1909-1990 年），男，河南省人。1936 年毕业于河南大学医学院，早年从事西医外科工作。1948 年起自学中医针灸，1952 年进修于中央卫生部针灸实验学习班，系统地学习了中国针灸学。在临床上，他将针刺麻醉用于外科手术，对针麻工作有很大贡献。他还擅长针灸治疗阑尾炎、腹膜炎、胃及十二指肠穿孔等疾病。^[24]方氏曾兼任西安市中医医院外科和针灸科主任，自上个世纪 50 年代起，在针灸界非常活跃。1958 年《上海中医药杂志》上刊载的代田文章，不可能不引起方氏的注意。

据方云鹏《头皮针》^[25]记载：1958 年他在“给一位患者针刺“承灵”穴位治疗感冒时”，同时治好了这位患者的腰疼病。在这个意外的启

发下，他在临床上反复试验，发现了头部有许多特效刺激点。其中一些刺激点与大脑皮层功能定位在头皮上的投影相关。“承灵”一穴，临床罕用，说明其时方氏开始重视头部腧穴。

在文化革命中，方氏被下放到陕西省蓝田县塘堰地段医院工作。1970 年夏他因滑倒，右侧尾骶骨疼痛，难于行走。在头部人字缝尖右侧有压痛。于是请人针刺压痛点，头部压痛点立即消失，同时尾骶骨疼痛大大减轻。其操作过程，与代田先生之法颇似。不久又来一位大腿内部被犁划破的农民，患者因疼痛而休克。在外科紧急包扎的同时，方氏在患者人字缝刺入两针，患者立即清醒，疼痛减轻，自行走出医院^[26]。

方氏经过大量临床实际，以逐步摸索出头部冠状缝、矢状缝、人字缝以及额部发际，存有许多治疗全身疾病的刺激点，这些点连接起来便成了两个人形缩影。一位于头顶部，一位于额部。据 1972 年渭南地区中西医结合经验交流会《经验方选》介绍：方氏的刺激点可分为两部分：即先找出的刺激点和后发现的刺激点。所谓先与后两个部分，即 1970 年之前和 1970 年。方氏先找出的刺激点主要与大脑皮层功能定位有位有关，如味觉、嗅觉、听觉，以及枕部的视觉、平衡、呼吸等，位于头顶的心肺、肝肾、大小肠等；后发现的刺激点主要为头颈、腰背、上肢、下肢以及额部的上、中、下三焦。先发现的刺激点一般刺健侧，后发现的刺激点一般刺患侧。肢体病刺相应的刺激点，内脏病除针刺相应刺激点外，还须分别针刺相应的上、中、下三焦。该文还附有图示一幅。^[27]可见方氏头皮针的创立，与代田之译文存有一定关联。

汤颂延（1921-1982 年），男，上海市人。1938 年 9 月拜张锡康先生为师，研习岐黄之术。后在上海、杭州开业行医或做驻堂医生。1952 年汤氏应试及格，进入北京大学医学院医疗系学习，1957 年 9 月本科毕业。随即分配到

上海第十一人民医院（即曙光医院前身）针灸科。1958 年调至新成立的上海市针灸研究所工作。1960 年汤氏与第一结核病医院合作，使用针刺麻醉进行肺切除手术。次年调入上海中医学院针灸教研组任教师^[28]。汤氏精通中西，善于学习思考。据著名针家朱明清回忆，1972 年汤氏到贵州巡回医疗时告诉他，有一农妇因心功能不全，意识不清，针刺百会、神庭两穴后，患者神志清醒，心率整齐。并嘱朱氏“对头部腧穴多加研究运用”^[29]。说明汤氏应研究过代田氏之译文，并在临床上改造运用。现存汤氏关于头皮针遗稿 3 份，分别为 1975 年、1979 年和 1981 年。汤氏在 1975 年版中仅有风区、静区，之后又增添了血压区。这些区域应是汤氏原有的经验穴，说明汤氏很早就重视头部腧穴的运用，并有所发挥。

此外，朱氏上肢区取法同方氏头皮针之伏象，下肢自前顶向承光则与代田氏类似。^{[29]24}

结语

代田氏的头部针刺法有固定的刺激区域、详细的操作方法、适用病症、众多的病例、原理探讨，应该说已是一种疗法。代田氏虽以经穴作为刺激部位，但操作时以手指或尖木棍按压，以寻找压痛点后针刺，说明其刺激点为穴区，故此法似可称为“头部穴区针刺疗法”。

虽然代田氏“头部针刺疗法”介绍到中国已经六十余年，对方氏头皮针和汤氏头皮针的创立起了重要作用，然由于上一世纪五十年代翻译出版的代田先生《针灸真髓》《针灸临床治疗学》，对中国针灸界影响很大，以致针灸界至今还误认为那两书便是代田先生的全部学说。七十年代以后，中国针灸界的眼光转向基础研究，以致对代田氏的临床“头部穴区针刺疗法”缺乏关

注。但代田氏的“头部针刺法”学术思想对中国头皮针的发展所起的作用，应不容否定和抹去。

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贵生无极导引术^[1]对轻症病毒性肺炎居家治疗的疗效研究

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【摘要】目的：回顾性分析贵生无极导引术对轻症病毒性肺炎居家治疗的疗效观察。**方法：**运用贵生无极导引术线上视频以及线上教学指导治疗轻症病毒性肺炎，并随时观察前后主症关联的动态疗效。**结果：**72小时总有效案例131例，总有效率85.1%；其中显效案例62例，痊愈31例，显效率60.4.0%；72小时以上，一周以内总有效率93.6%，显效率78.6%。说明随着时间的推移总体治愈率和显效率显著提高。中重症病人共82例，占总纳入病例的53.2%；72小时以内有效率91.5%；显效率74.4%，超过同一时期的总有效率和显效率，说明对于症状明显的中重症患者，结合贵生无极导引术治疗症状改善时间更短，效果更明显。随着病情改善会带来更显著的焦虑改善，总体焦虑指数改善超过病情改善情

况。**结论：**以增强自身免疫力，主动健康为主的贵生无极导引术的居家自疗方法，对轻症病毒性肺炎患者的效果确切。

关键词：病毒性肺炎；轻症；贵生无极导引术；居家治疗

A Research on the Effect of Home Treatment by GuiSheng Wuji Daoyin for the Mild Pneumonia

[Abstract] Objective: retrospectively analyze the efficacy of Guisheng Wuji Daoyin for home treatment for mild viral pneumonia. **Methods:** guide the treatment for mild novel Coronavirus pneumonia through online video and online teaching of GuiSheng Wuji Daoyin, and real-time observe the dynamic efficacy of the anterior and posterior main symptom association **Results:** There were 131 effective cases in total within 72 hours, with a total efficiency rate of 85.1%, of which there were 62 obviously effective cases and 31 cases recovered, with marked improvement rate of 60.4.0%. Over 72 hours, the total efficiency rate within one week was 93.6%, and the marked improvement rate accounted for 78.6%, which showed that the overall cure rate and marked improvement rate improved significantly with the passing time. There were 82 medium-severe patients, accounting for 53.2% of the total included cases. The efficiency rate and the marked improvement rate within 72 hours were 91.5% and 74.4% respectively, exceeding the total efficiency rate and the marked improvement rate in this period. The figures indicated that Guisheng Wuji Daoyin offered the medium-severe patients with obvious symptoms shorter time for improvement and more obvious curative effect. Each health improvement case was associated with a more significant improvement in anxiety, and the overall improvement in anxiety outweighed the health improvement.

Conclusion: Guisheng Wuji Daoyin, maily focusing on self-healing and active exercises, has been proven to be effective in treating domestic-therapy-taking patients with mild symptoms

Key words: Viral Pneumonia; Mild; Guisheng Wuji Daoyin; Home quarantine

自2019年下半年开始，一些国家和地区陆续出现新型冠状病毒感染的肺炎（COVID-19）患者。在2019年12月份开始我国湖北省武汉市也相继出现且暴发了COVID-19患者，然后蔓延到我国其他地区，严重威胁人们的生命健康，尤其是重症患者病情重，治疗难度大。一度影响了人们

染性强和各年龄段人群普遍易感特点，易引起地域性暴发，甚至全球范围大流行，中医将病毒性肺炎归于“风温”“瘟疫”“外感”等范畴，采取病症分型论治，随症遣方用药，个体化施治^[2]。21世纪以来的重症急性呼吸综合征（severe acute respiratory syndrome, SARS）、甲型H1N1流感病毒性肺炎、2019年底至

2020年3月份新冠状（Corona virus disease-19, COVID-19）病毒性肺炎暴发流行中，中医药疗法均积极参与其中，集全国之力来参与抗疫。由于武汉特殊疫情，在武汉封城以来，很多疑似病例和轻症感染者居家隔离。在此期间我们介入贵生无极导引术给予居家自疗线上指导。这里我们将2020年1-2月份我们采用贵生无极导引术在线上义诊居家隔离患者的治疗情况和效果分析总结如下。

一. 资 料

- 1.研究对象: 研究病例来源于武汉市2020年1-2月居家隔离的轻症病毒性肺炎患者200例。
- 2.纳入标准: 如下：①符合医院关于轻症病毒性肺炎患者的诊断标准；②年龄12-80岁，性别不限；③发病72h以内；④患者知情同意。

二. 方 法

1.建立线上信息收集平台，收集问卷，见下方图片，根据病人所写信息由医生判断中医证型所属轻中重级别，转诊到所属治疗群，由专人指导贵生无极导引运动疗法，必要时辅助中医外治方法如按摩、拍痧、热敷、艾灸等。发热加背部刮痧，恶寒怕冷加艾灸。

服务导引单

序号: 9
IP 地址: 120.229.159.249 (广东-惠州)
来源渠道: 微信
填写时间: 2020/2/2 19:12:37

1. 基本信息* [矩阵文本题]

(1)姓名
王晶

(2)性别
女

(3)年龄
34

(4)联系方式
18099184235

2. 病史（基础病）描述(如高血压、糖尿病、做过什么手术等) *

无

3. 有无传染源接触史? *

是

4. 目前有哪些症状? *[多选题]

发热；腹泻

5. 有发热填写 [矩阵文本题]

(1)发热时间
2月2号晚上开始

(2)体温范围
(3)

(3)有无咽痛
有

6. 有腹泻填写 [矩阵文本题]

(1)腹泻次数
3

(2)大便性状
稀

7. 有咳嗽填写 [矩阵文本题]

(1)咳嗽时间
(2)

(2)咳嗽性质（干咳/有痰）
(3)

(3)痰颜色（黄、白、干、绿）
(4)

8. 基础检查文件上传（血常规、CT等） [文件上传]

(5)

9. 舌照上传（需按标准流程拍照） [文件上传]



9_9_IMG_20200202_191037 患者面部 王晶

2.贵生无极导引运动功法主要有五个基本动作，分别对应人体的五脏六腑。四肢导引的运动功法，加速气血循环，疏通全身经络，调节脏腑功能，把身体内积累的风、寒、暑、湿、燥、火等病气，从手心与脚心以及四肢末端排出，提升人体抵抗力，改善亚健康^[3]。根据中医辩证指导病人居家运动，同时对病人线上指导应用骨节松解术开指关节。中医经络理论，五指分属于肺经，大肠经，心包经，三焦经，心经，小肠经，拉伸手指关节有助于气血运行，内脏功能的恢复。

五式	五行	五脏	功效
抖动式	水	肾	激发肾气、培元固本、补精添髓
甩手式	木	肝	激发肝气、交表阴阳

踢腿式	土	脾	增强脾胃运化功能，疏通腿部经络
扩胸式	金	肺	激活肺气、开阔心胸、扩充肺活量
引体式	水	心	引体苍穹，升气入脑，增加心脑血管流量

三. 结 果

1.纳入有效案例数：154例，另有46人因为特殊原因自动退出，总体依从率77%。

2.效果评价：

2.1评价标准：设立病情改善评级和焦虑改善评级：根据微信群沟通记录，对辅导开始时和结束时的症状/病情/焦虑指数做主观评分，总分制10分。计算公式为：1-结束的评分/开始时评分；例如：开始时病情评级分为7，结束时为2，那么病情改善评级即为：1-2/7=71.4%。如果病情改善评级大于或等于30%即为治疗有效，大于或等于50%即为治疗显效。病情严重程度判断标准：病情初起打分大于等于5分为中重症，小于5分为轻症。治疗后打分0分即为痊愈。

2.2. 治疗结果分析

2.2.1：24小时内有效率为53.9%，即一半以上患者病情得到改善。72小时内总有效案例131例，总有效率85.1%；其中显效案例62例，痊愈31例，显效率60.4.0%；72小时以上，一周以内总有效率93.6%，显效率78.6%。说明贵生导引术居家辅助治疗见效快，且随着时间的推移总体治愈率和显效率显著提高。（见表一、表二）

2.2.2：统计结果中，病情评分在5分和5分以上的中重症病人共82例，占总纳入病例的53.2%；72小时以内有效率91.5%；显效率

74.4%，超过这一时期的总有效率和显效率，说明对于症状明显的中重症患者，结合贵生无极导引术治疗症状改善时间更短，效果更明显。（见表三）

2.2.3：此次结果统计特意做焦虑指数改善统计，根据主观评级，每一个病情有改善都会带来更显著的焦虑改善，总体焦虑指数改善超过病情改善情况。

2.2.4：由于疫情期间均封闭在家治疗期间未有服药情况，仅根据居家条件个别实用一些药食同源的食品和中医外治辅助，但有部分患者在求助之前自行服用过抗生素、抗病毒药物和中成药等，治疗无效下采取网上求助，这部分患者病情较重，治疗时间较其他病例久。

2.2.5：总病例数154例，其中女性102例，占比66.2%，男性52例，占比33.8%，女性占绝大多数，可见女性愿意求助，更愿意接受非药物治疗。

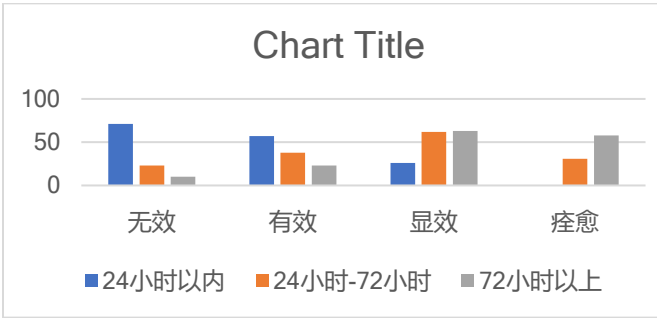
2.2.6：症状分析：所有病例均有不同程度的发烧、咳嗽、胸闷、腹泻、乏力等症状，治疗统计显示针对胸闷、乏力的改善略优于其他症状，但无统计学意义。

表一：

	例数				占比			统计	
	无效	有效	显效	痊愈	有效	显效	痊愈	有效率	
24小时内	71	57	26	0	37.0%	16.9%	0	53.9%	
24~72	23	38	62	31	24.7%	40.3%	20.1%	85.1%	60.4%

小时									
72 小时 以上	1 0	2 3	6 3	5 8	15%	40. 9%	37. 7%	93. 6%	78. 6%

表二：



表三：

病情评级改善率		低于 30%	低于 50%	50%以 上	合 计
总体	人数	16	40	114	15 4
	比例	10.4%	26.0%	74.0%	
中重症 (病情 评级 5 以上)	人数	7	21	61	82
	比例	8.5%	25.6%	74.4%	
轻症 (病情 评级 5 以下)	人数	9	18	54	72
	比例	12.5%	25.0%	75.0%	

四. 讨论

1.病因：自古以来病毒（瘟疫）引起的呼吸系统疾病就长期存在并反复发作，涉及人群广，危害程度深，甚至可以引起死亡。21世纪以来严重急性呼吸综合征（severe acute respiratory syndrome, SARS）、甲型H1N1流感病毒性肺炎（禽流感）、2019冠状病毒肺炎（Corona virus disease-19, COVID-19）等均爆发大规模流行。中医没有病毒的这一说法，将其归为风、寒、暑、湿、燥、火等外邪，称为六淫戾气。中医认为当人体正气不足，阴阳失衡时，风、寒、暑、湿、燥、火六淫外邪入侵身体，引起以呼吸系统为主的症状，中医归为“风温”“瘟疫”“外感”等范畴，根据采取辨证分型论治，随证遣方用药，个体化施治。中医历代医家普遍认为导致病毒性肺炎的直接原因是感受外邪，且多以温邪为主^[4]。然“正气存内，邪不可干”、“精神内守，真气从之，病安从来”，又说明疾病发生的本质实为机体正气不足。

2.病机：热毒痰瘀为此次病毒性肺炎的主要病机，后期引发肺气阴亏虚是主要病理基础，病位主在肺，涉及心、肝、脾脏，病性虚实夹杂，或以虚为主，或以实为主，虚主要是气阴亏虚，实主要是热、痰、毒、瘀等^[5]。舌质红舌苔黄厚腻，正气虚而感邪，邪正交争，生发痰浊瘀血，痰阻气道，血络，致肺主气、司呼吸、助心行血功能失衡，严重可致肺气闭塞，毒邪内陷^[6]。综上所述，病毒性肺炎的病因即为正气不足、复感外邪，病机为热毒痰瘀的复杂交互作用。《瘟疫论》载：“此气之来，无论老少强弱，触之者即病”，病毒性肺炎具备极强的传染性以及流行性，“疫病”致病物种偏中性且传播途径可为“诸窍”^[7]，或为其传染性强、人群普遍易感的中医关键。

3.治疗原则：成人病毒性肺炎病情较重且病机复杂易于传变，治疗总的原则为扶正祛邪。贵生文化思想：贵生文化^[3]源于中华优秀传统文化，是

中国传统文化的重要组成部分，以传统导引术^[3]为基础，贵生无极导引术以传统四肢导引术^[4]为基础，经现代名师推演分解为适合现代社会生活的简单招式，老少咸宜。居家之所，方寸之地，即可进行练习。通过简单易学的动作，达到放松身心改善亚健康，提高免疫力的作用。每个动作都是由上百种动作精炼演化而成，按照五行相生、相合的原则编排，改善人体气脉、血脉、经络的运行走向，协调气血平衡、行经活血、舒筋活络、强健心肺、舒气解郁，从而使身心达到健康平衡的状态。通过抖动、甩手、踢腿、扩胸、引体等简单易学的动作，放松身心，排除杂念，心平气和，一心一意投入到运动之中，享受运动乐趣，感受运动前后身心的愉悦体验，从而达到平衡脏腑机能，舒经活络，顺经理气，气血和合，提高新陈代谢能力，改善亚健康，增强体质，抵御外部病邪入侵的运动功效。

4. 治疗方法与效果：

我们在2020年2月份通过线上义诊活动接触到很多轻症患者，甚至还有重症患者，通过线上提供贵生运动视频，然后指导饮食茶饮运动以及心理疗法等给予患者在家里治疗，患者配合度高，大多数人在我们的指导下都得到了好转甚至治愈。24小时内有效率为53.9%，72小时内总有效案例131例，总有效率85.1%；其中显效案例62例，痊愈31例，显效率60.4.0%；72小时以上，一周以内总有效率93.6%，显效率78.6%。说明贵生导引术居家辅助治疗见效快，且随着时间的推移总体治愈率和显效率显著提高。比疗效更显著改善的是焦虑指数改善，根据主观评级，每一个病情有改善都会带来更显著的焦虑改善。同时所有154例，其中女性102例，占比66.2%，

远远大于男性病例，，可见女性愿意求助，更愿意接受非药物疗法。所有病例均有不同程度的发烧、咳嗽、胸闷、腹泻、乏力等症状，治疗统计显示针对胸闷、乏力的改善略优于其他症状，但无统计学意义。

5. 结论：贵生无极导引术以增强自身抗病能力为主要方向的居家自疗方法，对病毒性肺炎病人的效果确切。

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Exploring the Efficacy of Acupuncture in Conjunction with Gua Sha Therapy for Chronic Anxiety Disorders Comorbid with ADHD: A Case Report and Literature Review

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Abstract: Anxiety disorders, often comorbid with Attention-Deficit/Hyperactivity Disorder (ADHD), present challenges in treatment due to concerns about side effects and recurrence rates associated with standard pharmacotherapy and psychotherapy. Acupuncture, a widely practiced traditional medicine, has shown promise in managing anxiety disorders. This case report examines the efficacy of acupuncture with Gua sha treatment in a 37-year-old female patient with chronic anxiety disorders comorbid with ADHD. The patient presented with symptoms including tension, emotional instability, sleep disturbances, and muscle tightness, with previous treatments proving ineffective or intolerable. Acupuncture treatment, targeting points such as Baihui (DU20), Yintang (EX-HN3), Shenmen (HT7), and others, was administered weekly for six sessions, supplemented by Gua sha applied to the upper back and neck. The patient reported improvements in sleep, emotional regulation, and overall mood. This case report suggests that acupuncture with Gua sha treatment may be a valuable adjunct therapy for chronic anxiety disorders comorbid with ADHD. Further research is needed to confirm these findings and elucidate the underlying mechanisms of action.

Keywords: Acupuncture, Anxiety disorders, ADHD comorbidity, Gua sha, Alternative medicine, Case report

Introduction

Anxiety is a pervasive psychological challenge worldwide and is widely recognized as one of the top ten leading causes of disability. 1-3 Given its high prevalence across all age groups, research into anxiety treatment is a critical area that requires exploration, with significant implications for public health.4 Anxiety disorders can start early in life and tend to become more common as individuals get older and are more commonly diagnosed in females, with a ratio of approximately 2:1 compared to males.5,6 These disorders can lead to various physical and mental symptoms, such as depression, disrupted sleep patterns, pain, and somatic complaints, which can persist throughout a person's life and result in reduced functionality, financial strain, and a diminished quality of life.1,7

Anxiety disorders are frequently linked with Attention-Deficit/Hyperactivity Disorder (ADHD), which manifests as persistent patterns

of inattention and/or hyperactivity, defining it as a prevalent neurobehavioral condition.8 Krone and Newcorn (2015) observed that 25% to 50% of individuals diagnosed with ADHD in childhood and 50% of those diagnosed in adulthood also meet the diagnostic criteria for at least one anxiety disorder. They further suggest that despite following distinct developmental paths, anxiety disorders and ADHD may present overlapping symptoms.5 The presence of both ADHD and anxiety disorders tends to intensify anxiety symptoms, increasing the overall disease burden and often resulting in a more severe illness trajectory than having either disorder in isolation.9 Anxiety disorders are the result of intricate interactions involving neurotransmitters, brain regions, and physiological responses.6 Key neurotransmitters such as norepinephrine, serotonin, dopamine, and gamma-aminobutyric acid (GABA) play pivotal roles in the development of anxiety, with symptoms often

influenced by the sympathetic nervous system. Individuals with anxiety disorders frequently exhibit increased grey matter volume in the amygdala in response to triggers. The amygdala, located in the medial temporal lobe, is crucial for learning fear behaviors and storing emotional memories that contribute to specific fears.^{1,6,10} While ADHD and anxiety disorders are characterized by distinct features and diagnostic criteria, individuals with ADHD may exhibit neurodevelopmental abnormalities in the brain that are similar to those seen in individuals with GAD, the most prevalent anxiety disorder. For instance, one MRI study found higher grey matter volume in specific regions, such as the right inferior frontal gyrus and right prefrontal cortex (PFC), among children and adolescents with ADHD.¹¹ Pharmacotherapy and psychotherapy are the mainstays of treatment for anxiety when it coexists with ADHD, with pharmacotherapy considered standard and psychotherapy often seen as insufficient when used alone.² There is a continuous debate among researchers and clinicians on the best strategy for addressing anxiety alongside ADHD. Katzman et al. (2017) indicate that in Western medicine, priority is typically given to the most severe or destabilizing condition, such as affective disorders, in treatment. This is followed by a stepwise approach to address any remaining ADHD symptoms.⁹ Some argue that the sequence in which disorders are addressed may influence treatment decisions. Instance, aggressive treatment of ADHD might reduce anxiety symptoms, suggesting a different approach to managing both conditions.^{11,12} The serotonin system (5-HT) is increasingly recognized for its pivotal role in fear and anxiety regulation. Consequently, selective serotonin reuptake inhibitors (SSRIs) are pivotal in treating generalized anxiety disorder (GAD), complemented by benzodiazepines.¹³ In addressing ADHD symptoms, stimulants are deemed the most effective medications, although non-stimulants also hold significance in managing the condition.¹⁴

However, pharmacotherapy raises concerns such as the potential for habituation with long-term use, the risk of side effects and drug interactions, limited efficacy, and a high recurrence rate.^{2,15} Research suggests that children with comorbid ADHD and anxiety may respond less favorably to stimulant medication, potentially experiencing more unpleasant arousal side effects. Furthermore, the presence of ADHD symptoms might reduce the responsiveness of anxiety symptoms to antidepressant medications.¹¹ In recent years, there has been a growing trend among patients to combine traditional medications with alternative therapies for mental disorders, indicating an increasing demand for safer and more effective treatment options like acupuncture.^{4,13,15} Acupuncture therapy is commonly utilized to address mental health concerns such as anxiety, depression, stress, and insomnia, particularly in nations such as China, Japan, and Korea and is known for its targeted, adaptable, effective, relatively affordable and safe nature, has been utilized as an adjunct treatment for anxiety disorder in numerous clinical trials.^{2,3,13,16-18} Moreover, Acupuncture is gaining recognition and promotion in Western countries as a treatment method for ADHD, demonstrating its clinical efficacy. Over the past 30 years, a more systematic theory and clinical treatment system have been developed for acupuncture in this context.¹⁹ In traditional Chinese Medicine (TCM), there isn't a direct equivalent for anxiety disorders, but their symptoms are recognized through various manifestations, including heightened vigilance, concentration issues, being easily startled, chest discomfort, shortness of breath, and feelings of anxiousness.^{2,20} They view both anxiety and ADHD as stemming from imbalances between the opposing forces of yin and yang. Anxiety is considered a manifestation of disharmony in the Shen (spirit), believed to reside in the heart. This disharmony is thought to result from disruptions in the flow of qi (vital energy) due to

insufficiency or stagnation of blood or qi, which can affect the heart directly or arise from imbalances in other organs such as the Kidney or Liver.^{2,4,21} Conversely, an imbalanced condition of the whole body, characterized by yin insufficiency and an excess of yang, is believed to lead to impaired mental function, such as ADHD.²²

Acupuncture is known to effectively address anxiety disorders by stimulating specific points, which helps restore balance and communication within the meridians. This ancient practice aims to alleviate symptoms by harmonizing the body's energy flow.² It is often complemented by Gua sha, a technique involving the use of a tool to gently scrape the skin. This process, when applied with a lubricant, induces therapeutic petechiae, known as Sha, which can help alleviate regional pain such as shoulder pain.²³

Research has shown a significant association between anxiety, depression, and sleep disturbances in individuals with chronic shoulder pain. Therefore, the combined approach of acupuncture and Gua sha may offer a holistic and effective treatment option for such patients.²⁴

While previous studies have demonstrated acupuncture's efficacy in managing anxiety disorders and ADHD individually, there is a paucity of research in TCM regarding its impact on anxiety in individuals with ADHD.

Additionally, there is limited literature on the effectiveness of Gua sha for anxiety symptoms. This case report seeks to investigate the effectiveness of acupuncture combined with Gua sha in treating anxiety disorders in adults with comorbid ADHD.

In this study, acupuncture was administered to a patient with chronic anxiety disorders at the Ginkgo Wellness Acupuncture and Herbs clinic. The acupuncture treatments were tailored based on the TCM theory of Zang-fu organs, with the goal of developing an effective treatment protocol for both anxiety and ADHD. This approach recognizes the coexistence of these disorders and utilizes a flexible and proactive treatment strategy. Our clinical

experience has demonstrated that this treatment protocol is highly effective.

CASE REPORT

Clinical History

A 37-year-old female patient presented with a chief complaint of anxiety to Ginkgo Wellness Acupuncture and Herbs clinic on September 23, 2023. She reported suffering from anxiety disorders for over 10 years, with symptoms possibly beginning around the age of 10 or 11. While she occasionally experiences feelings of depression, her predominant symptoms are anxiety-related.

Over the last few months, her symptoms have worsened, manifesting as increased tension, difficulty controlling emotions, and profound fatigue, particularly in the late afternoon after work, often necessitating a two to four-hour nap upon returning home. She works as a facility manager and is happily married, although she finds her work stressful. She expressed confusion regarding the reasons for her suffering.

Additionally, she has been experiencing sleep disturbances, including difficulty falling asleep until after midnight, waking up in the middle of the night and struggling to return to sleep, and frequent nightmares that leave her waking up drenched in sweat. She also noted extreme tightness in her upper back, describing it as feeling like a hard rock. The patient was diagnosed with ADHD at a young age and was previously prescribed Adderall and Fluoxetine, but she discontinued them due to severe side effects or lack of efficacy. She has a history of 2-3 panic attacks in her lifetime but has reported no other medical conditions. Her family history is significant for depression and ADHD on her maternal side. She expressed a desire for alternative medicine to avoid long-term use of high-potency Western medications. Except for tense shoulder muscles, her physical examination revealed to be overall in good condition. Her tongue appeared red with multiple cracks, without coating, and sublingual dilation. The pulse was found to be thready and deep at the Kidney position.

Acupuncture Treatment

The acupuncture treatment consisted of six sessions: one session per week for five weeks, followed by a final follow-up session two weeks later. The aim of the treatment was to alleviate the patient's anxiety symptoms.

Prior to treatment, informed consent was obtained from the patient. The patient was then positioned supine, and the skin was disinfected using alcohol. Fourteen acupuncture points were selected to target both anxiety and ADHD, including Baihui (DU20), Yintang (EX-HN3), Shenmen (HT7), Neiguan (PC6), Hegu (LI4), Sanyinjiao(SP6), Taichong(LR3), and Zhongdu(KD6). Stainless steel acupuncture needles measuring 0.18mm x 15mm and 0.22mm x 30mm were used for the treatment. The depth of insertion ranged from 0.3 cun to 1 cun. The needles were retained for 30 minutes without any manipulation.

Following the acupuncture treatment, Gua Sha was performed on the patient's upper back and the entire back of the neck area which are both along the Gallbladder and Urinary Bladder meridians. A Jade stone was used for Gua Sha after applying a mixture of Po Sum On oil and massage cream. The treatment was continued until no further Sha (petechiae) could be raised. This combined approach of acupuncture and Gua Sha was chosen to address the patient's anxiety symptoms and promote overall well-being.

Outcome measures

The Profile of Mood States (POMS) is widely recognized as a valuable clinical tool for assessing psychological distress. However, the original 65-item POMS can be burdensome, particularly for individuals experiencing stress or pain. To address this issue, Schacham (1983) developed a shorter 37-item version of the POMS, known as the POMS-SF, which is more manageable and easier to administer in clinical settings.²⁵

The POMS-SF provides both an overall total mood disturbance score and scores for each of the six subscales included in the original POMS. Studies have shown that the POMS-SF demonstrates excellent internal consistency

reliabilities, making it a reliable and efficient alternative to the original POMS.^{26,27}

Participants completed the 37-item shortened version of the Profile of Mood States (POMS) questionnaire before the first session, after each session, and during the follow-up session to assess their mood status. There was no time limit for completing the questionnaire.

Using a 5-point scale ranging from "not at all" (0) to "extremely" (4), participants rated their current mood for feelings such as Tension-Anxiety, Depression, Anger, Fatigue, Confusion, and Vigor. The Total Mood Disturbance (TMD) score, which reflects overall mood, was calculated from these ratings using a specific formula. TMD scores range from -24 to 124, with lower scores indicating a better mood state.

Treatment Outcomes

During the initial session, the patient reported tenderness and sensitivity, particularly at the LV3 points bilaterally, which resolved by the end of the treatment. She experienced immediate relaxation and reduced shoulder tightness following the first session.

At the second visit, the patient mentioned experiencing shoulder soreness on the night of the first treatment, which had improved by the next day. She also noted improved emotional management during a recent stressful work situation.

By the third visit, the patient reported feeling tense and experiencing heavy crying the night before. Despite this, she was able to calm herself down more quickly than before, showcasing improved emotional regulation. Additionally, she noted an improvement in sleep quality with fewer dreams and shorter daily naps overall. Since the third week of treatment, she did not experience any tenderness or sensitivity during needling, allowing her to relax more deeply, even falling asleep during acupuncture session.

After five weeks of treatment, the patient reported feeling overall good, with only one night of non-stressful dreaming and a decrease in feeling dampish in the mornings.

During a follow-up two weeks later, the patient mentioned better control of her anxiety and more stable emotions. Although she experienced moments of upset and anxiety, she was able to calm down within 25 minutes. No acupuncture-induced side effects were noted throughout the entire course of treatment.

The patient's Total Mood Disturbance (TMD) score significantly decreased from 64 before treatment to 15 after follow-up treatment, indicating a substantial improvement in overall mood over the seven-week period. Notably, the tension and depression sub-scores showed dramatic reductions from 23 to 7 and 18 to 8, respectively, suggesting a marked decrease in feelings of tension, stress, and sadness. Additionally, the anger score decreased from 10 to 4, the fatigue score decreased from 12 to 5, and the confusion score decreased from 7 to 3. Meanwhile, the vigor score increased from 6 to 12, indicating an enhancement in feelings of vigor and energy.

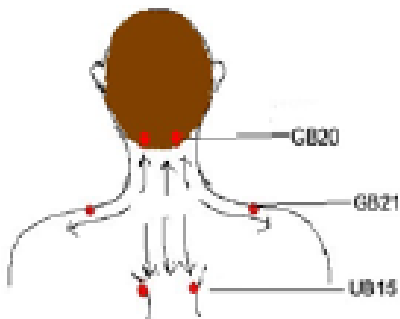


Figure 1 Location and Direction of Gua Sha Treatment (Back Area)

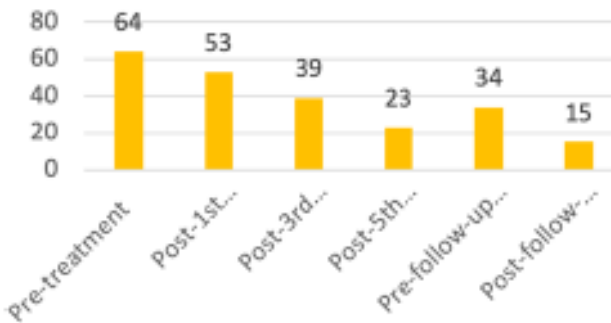


Figure 2 Total Mood Disturbance (TMD) Score Change Over 7 Weeks of Treatment

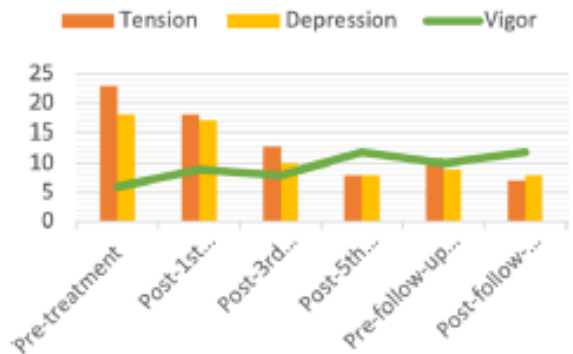


Figure 3. Comparison of Tension, Depression, and Vigor Sub-scores of Total Mood Disturbance (TMD) Over 7 Weeks of Treatment

DISCUSSION

These findings of this case study demonstrate a clear improvement in mood and suggest that acupuncture and Gua sha therapy may be effective in improving mood and reducing anxiety symptoms in patients with ADHD.

Acupuncture, a widely practiced traditional and complementary medicine, is utilized in 113 out of 120 countries primarily for pain relief.

Recently, research on acupuncture for mental disorders has been growing, showing positive effects.²⁸ Multiple studies have confirmed acupuncture as a safe therapy with minimal side effects, demonstrating its effectiveness in treating anxiety.^{2,4,7,15,29,30} For instance, according to Errington-Evans (2015), acupuncture shows promise as an intervention for patients with chronic anxiety symptoms that have not responded to other treatments.³¹ Novak et al. (2019) found that acupuncture improved anxiety, sleep, and quality of life in the study group.⁴ Tan et al. (2020) demonstrated that the combination of acupuncture with Western medicine is an effective and safe intervention for anxiety.¹⁵

Additionally, individuals with anxiety disorders often experience neck pain. Gua sha has shown significant effectiveness in providing short-term relief for acute neck pain in the study by Braun et al. (2011).²³ Acupuncture's mechanisms in TCM are not fully understood.^{30,32} However, it is believed to impact the autonomic nervous system, as evidenced by changes in heart rate variability.³⁰ Acupuncture also modulates brain

activity, influencing hormones and neurotransmitters such as corticosteroids and serotonin, which can help alleviate anxiety.^{15,32} A study by Tang (2019) using laser Doppler imaging and infrared thermography demonstrated that Gua Sha significantly increases blood flow perfusion and skin temperature immediately after treatment, effects that lasted for over 90 minutes. The study also observed that thermal conductivity along meridians and beneath tissues appeared to be more efficient than in other areas of the body.³³

While previous TCM studies have demonstrated the positive effects of acupuncture for anxiety, they have not specifically addressed individuals with comorbid conditions like chronic anxiety and ADHD, as detailed in this case report. Some Western medicine studies have indicated that effective treatment of ADHD can actually improve comorbid psychiatric symptoms, including anxiety disorders.^{9,12} Additionally, research has shown the efficacy of combining SSRIs with stimulants for improved functional outcomes in ADHD with comorbid anxiety symptoms.⁹ These findings underscore the potential of acupuncture as an effective intervention for simultaneously targeting symptoms of both anxiety and ADHD, highlighting its holistic approach to treating these complex conditions.

In a literature review, several acupuncture points have been identified as commonly used for treating anxiety disorders. These include EX-HN3, PC6, LR3, GV20, and HT7, which are considered almost mandatory for such treatments.^{8,14,31} In addition, a recent randomized controlled trial (RCT) by Fleckenstein (2018) demonstrated that acupuncture at HT7, in conjunction with LI4, was more effective than sham acupuncture and control in alleviating anxiety.³⁴ Interestingly, some of these points have shown overlap in their use for treating ADHD. The RCT study by Hong (2011) found that GV20, LI4, and LR3 were commonly selected points for ADHD

treatment, with a particular emphasis on GV20 due to its importance in achieving balance in both mind and body.²²

Finally, it is important to consider the limitations of this case report. One notable aspect was the observed fluctuation in acupuncture effectiveness during the follow-up period. While there was a tendency for the acupuncture's effectiveness to decrease in the 2-week follow-up compared to the weekly treatments, it was noteworthy that the treatment efficiency improved immediately following the subsequent treatment. This suggests that the effects of acupuncture for anxiety in ADHD may be more pronounced with regular, frequent treatments, and that the benefits may be sustained over time with continued intervention. Further research is needed to explore the long-term effects and optimal frequency and duration of acupuncture treatments for this population. Additionally, the outcomes in this report relied on the patient's subjective measures, which can be influenced by factors such as expectations, current mood, and memory biases. Lastly, while Gua sha seemed to enhance the effects of acupuncture in alleviating symptoms of anxiety disorders, its direct impact on improving anxiety conditions remains uncertain. This observation is based on clinical experience and requires further research to establish its efficacy.

Even though those limitations mentioned above, the application of acupuncture treatment with Gua sha may be a good option for patients who exploring complementary therapies for their chronic mental health issues, specifically individuals with coexisting chronic anxiety and ADHD.

Conclusion

In conclusion, this case report suggests that acupuncture combined with Gua sha treatment shows promise as a potential intervention for individuals experiencing chronic anxiety disorders comorbid with ADHD. However, further research is needed to fully assess its long-term efficacy and to elucidate the specific

seeking alternative approaches to managing their mental health conditions. Mechanisms of action involved. Despite the limitations of this study, the observed improvements in mood and anxiety symptoms such as insomnia, muscle tightness warrant consideration of acupuncture with Gua sha as a complementary therapy for individuals Data availability statement. The raw data supporting the conclusion of this article will be made available by the author, without under reservation.

Ethics statement

Ethical review and approved was not required for the study on human participant in accordance with the local legislation and institutional requirements. The patient consented in writing to participate in this study and for the publication of any potentially identifiable data.

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Conflict of interest

The author affirms that there are no conflicts of interest related to the research, authorship, or publication of this article.

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The Therapeutic Effects of Electro-Acupuncture on Symptoms Management in IBS/SIBO Patients, Case Report and Literature Review

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Abstract: Irritable Bowel Syndrome (IBS) and Small Intestinal Bacterial Overgrowth (SIBO) detrimentally affect patient quality of life, driven by a complex interplay of physiological, microbial, and neurological factors. This series of case reports delves into the therapeutic efficacy of electro-acupuncture, with a focus on stimulating the Vagus nerve at the Vagus ear point and applying targeted treatments at ST 36 (Zusanli) and LI4 (Hegu) acupuncture points, to manage IBS and SIBO symptoms. This method uniquely combines traditional acupuncture with electrical stimulation to modulate gut motility, alleviate visceral pain, and reduce inflammation while potentially influencing the gut microbiome. Emphasizing the specific roles of ST 36 for enhancing digestive health, LI4 for general analgesia, and the Vagus ear point for regulating the gut-brain axis, this approach embodies Traditional Chinese Medicine (TCM) principles and integrates modern medical insights, offering a holistic strategy for the complex symptomatology of IBS and SIBO. This research highlights the significance of a multifaceted treatment approach, suggesting that electro-acupuncture, especially when concentrating on these pivotal points and nerve stimulation, can profoundly complement conventional treatments for these challenging gastrointestinal disorders, as evidenced in our case reports.

Key Words: Irritable Bowel Syndrome, Small Intestinal Bacterial Overgrowth, Electro-acupuncture, Vagus nerve stimulation, Acupuncture points (ST 36, LI4), Gut motility, Visceral pain.

Introduction

Small Intestinal Bacterial Overgrowth (SIBO) and Irritable Bowel Syndrome (IBS) are prevalent gastrointestinal disorders characterized by complex symptoms that significantly impair patients' quality of life. The traditional medical approaches often address these conditions separately, focusing on symptom management rather than underlying causes. However, the holistic perspective of Traditional Chinese Medicine (TCM) offers a unique vantage point, emphasizing the interconnectedness of the body's energy systems. This research explores the therapeutic effects of electro-acupuncture, a modern extension of an ancient technique, on managing symptoms in IBS and SIBO patients. By integrating traditional wisdom with contemporary practices, this study aims to

illuminate the potential of electro-acupuncture in providing a more comprehensive and effective treatment modality for these challenging conditions.

TCM offers a holistic perspective on health, particularly in the treatment of gastrointestinal disorders like SIBO and IBS. This ancient medical system emphasizes the interconnectedness of the

body's energy systems, viewing diseases as manifestations of deeper imbalances rather than isolated symptoms.

In TCM theory, SIBO and IBS are often linked to imbalances in the Spleen and Stomach organs. SIBO, with its characteristic 12 bacterial overgrowth in the small intestine, and IBS, as a chronic functional disorder, are seen as disruptions in the body's natural energy flow, or Qi. Addressing these imbalances is central

to TCM treatment strategies for these conditions [1]. The complexity and challenges in treating SIBO have been highlighted in the medical literature, which discusses the pursuit of effective and safe treatments for this condition [2,3]. The core symptoms of SIBO, such as bloating and abdominal discomfort, are manifestations of Spleen Qi deficiency and disharmony between the Spleen and Stomach [4], highlighting the importance of addressing these underlying imbalances in TCM treatment approaches.

The conventional treatments often focus on symptom management, but TCM seeks to address the root causes of these disorders. For instance, Spleen Qi Deficiency can lead to symptoms like diarrhea and fatigue, while Liver Qi Stagnation, often triggered by emotional stress, can result in abdominal pain and bowel irregularities. These patterns highlight the significance of a holistic approach that considers both physical and emotional well-being in the treatment of IBS [5].

In TCM, the treatment of SIBO and IBS involves a multi-faceted approach. Herbal medicine, dietary modifications, and acupuncture are used to rebalance the body's energy systems. Specific Acupuncture points are chosen for their properties to strengthen the Spleen, regulate the Stomach, and soothe the Liver, supporting the emotional state and addressing the unique pattern of disharmony in each patient.

The integration of electro-acupuncture into TCM for SIBO and IBS marks a significant advancement [6]. This technique combines traditional acupuncture with electrical stimulation to enhance the therapeutic effects [7,8]. Electro-acupuncture specifically targets acupuncture points associated with digestive health and emotional well-being. In a case report we used acupuncture points like ST 36 (Zusanli) selected to enhance gastrointestinal motility, while Ear Shenmen and Thalamus points were used for their calming effects on stress and anxiety. This method is believed to regulate gut motility, alleviate visceral pain,

reduce inflammation, and potentially modulate the gut microbiome [9].

A key element in managing IBS and SIBO with electro-acupuncture is the stimulation of the Vagus Nerve Point. This point plays a critical role in the gut-brain axis, influencing various gastrointestinal functions [10]. Stimulation of the Vagus nerve through electro-acupuncture can enhance its regulatory effects on the gut, addressing symptoms like irregular bowel movements, abdominal pain, and discomfort. Electro-acupuncture, within the framework of TCM, represents a holistic approach to health and well-being. By addressing imbalances in Qi and focusing on the interconnectedness of the body's systems, this method goes beyond symptom relief to promote long-term health. Dietary advice in TCM also plays a crucial role, with recommendations tailored to individual patterns of disharmony. Foods that nourish the Spleen and harmonize the Stomach are emphasized, while those that exacerbate symptoms are avoided.

TCM recognizes the profound impact of emotional and psychological factors on physical health. Stress, anxiety, and emotional turmoil are considered significant contributors to gastrointestinal disorders. Techniques like meditation, Tai Chi, and Qi Gong are often recommended alongside electro-acupuncture to manage stress and emotional imbalances. While TCM and electro-acupuncture offer effective approaches to treating SIBO and IBS, an integrated approach that combines these methods with conventional medical treatments can provide comprehensive care [11]. This integration allows for a more nuanced understanding of these complex conditions and a more effective treatment strategy that leverages the strengths of both Eastern and Western medical practices.

Ongoing research into the efficacy of electro-acupuncture in treating gastrointestinal disorders continues to shed light on its potential benefits. Future studies are needed to further understand the mechanisms behind

electro-acupuncture and to optimize treatment protocols for conditions like SIBO and IBS. The therapeutic effects of electro-acupuncture in managing symptoms of IBS and SIBO demonstrate the potential of integrating TCM with modern medical approaches. This holistic perspective, focusing on restoring balance and addressing root causes, offers a unique and effective path to health and well-being for patients with complex gastrointestinal disorders. As research in this area advances, the role of electro-acupuncture in mainstream healthcare continues to grow, offering hope and relief to those suffering from these challenging conditions [12,13].

The physiopathology of IBS and SIBO underscores the complexity of diagnosing and treating gastrointestinal disorders. Both conditions manifest through an intricate interplay of physiological, microbial, and neurological factors that disrupt normal gastrointestinal function. The diagnosis of IBS is facilitated by the Rome criteria, which standardize the diagnosis by defining specific symptom criteria for different subtypes of IBS, such as IBS with constipation (IBS-C), IBS with diarrhea (IBS-D), and mixed IBS (IBS-M), helping in accurately identifying and treating IBS based on its varied presentations [14]. IBS is a prevalent functional gastrointestinal disorder characterized by symptoms such as abdominal pain, bloating, and altered bowel habits. Its multifactorial pathogenesis involves altered gut motility, visceral hypersensitivity, and gut-brain axis dysfunction, among others. Dysregulated communication between the gut and the brain significantly influences the manifestation of symptoms, with this bidirectional pathway involving neural, hormonal, and immunological signals leading to changes in gut function [15]. Altered gut motility can present as diarrhea-predominant (IBS-D), constipation-predominant (IBS-C), or mixed (IBS-M) subtypes [16], and visceral hypersensitivity results in a lowered threshold for pain [17]. Gut microbiota dysbiosis disrupts intestinal homeostasis, affecting the gut-brain axis communication [18].

Characterized by excessive bacterial growth in the small intestine, SIBO leads to symptoms like nutrient malabsorption and gas production. It arises from a failure in the small intestine's protective mechanisms against bacterial overgrowth, with contributing factors including impaired gastrointestinal motility and anatomical abnormalities [19]. Impaired motility and anatomical issues create niches for bacterial growth, exacerbated by dysbiosis and immune dysregulation [20,22].

The Vagus nerve plays a pivotal role in the regulation of gastrointestinal motility, secretion, and sensation, making it integral to the gut-brain axis' function. Dysregulation of vagal tone is implicated in the pathophysiology of IBS and SIBO, influencing gut motility and visceral sensitivity. Vagus nerve stimulation (VNS) emerges as a promising therapeutic approach, offering the potential to modulate gastrointestinal functions, reduce inflammation, and alleviate symptoms associated with these conditions. By directly influencing the gut-brain communication, VNS aims to restore the physiological balance disrupted in IBS and SIBO [21].

Addressing the underlying causes of IBS and SIBO, including microbiota imbalances and gut-brain axis dysfunction, is crucial for developing targeted treatments. Incorporating dietary modifications, probiotics, and pharmacological interventions, alongside cognitive-behavioral therapy, provides a comprehensive management strategy. The inclusion of vagus nerve stimulation (VNS) represents an innovative approach, targeting the core of the gut-brain axis to improve gastrointestinal function and symptomatology. By leveraging the role of the vagus nerve in gastrointestinal regulation, VNS offers a novel therapeutic avenue, underscoring the importance of the gut-brain connection in treating complex gastrointestinal disorders.

Case Reports

Ethics Statement

For all case reports, patients sign informed consent and grant permission for the use of any data or images related to their treatment, ensuring *their privacy is respected*.

Patient Observation and Study Timeline

Comment:

Throughout the duration of this study, which ran from February 14th to April 2nd, 2024 patients diagnosed with (IBS) and (SIBO) were closely monitored on a weekly basis. This consistent observation schedule was crucial for understanding the progression of symptoms and the therapeutic effects of electro-acupuncture. To systematically track and quantify the severity of patient symptoms, we employed an IBS/SIBO symptom severity questionnaire, specifically designed for the purposes of this study. This tool allowed for the collection of detailed, subjective patient feedback, enabling a nuanced analysis of symptom patterns over time and the effectiveness of the treatment regimen.

Case 1

The patient, a 52-year-old female with a body weight of 64.4 kg and a height of 165 cm, consulted our clinic due to ongoing symptoms of left dull hypochondriac pain, pronounced bloating, frequent constipation, and tenesmus. Her extensive medical history revealed that she was diagnosed with Small Intestinal Bacterial Overgrowth (SIBO) in April 2023, for which she received targeted treatment consisting of Rifaximin, administered at 1500 mg daily for a 10-day course, in conjunction with a strict FODMAP diet aimed at reducing dietary triggers. Despite adhering to this treatment protocol, the patient reported the persistence of her initial symptoms, with no significant improvement. This persistent symptomatology suggests a complex case of SIBO that may be resistant to standard treatment approaches, highlighting the necessity for an alternative therapeutic strategy and further diagnostic assessments to manage her condition better and improve her quality of life. Additionally, her past medical history includes depression and anxiety, conditions that have been present for several years and are relevant to her overall health and management strategy. In the physical examination, her pulse felt weak and slow, further supporting the diagnosis of Qi

deficiency. A slippery pulse was also noted, which is associated with the presence of dampness or phlegm in the body. Her tongue presented with a pale body and a thick white coating, indicative of Spleen Qi deficiency and dampness accumulation in the body. This observation aligns with her symptoms of bloating and constipation, suggesting spleen Qi deficiency leading to improper fluid metabolism and dampness. The patient was scheduled to be seen every week for 8 weeks for 45-minute sessions, ensuring a consistent and thorough application of the treatment strategy to achieve optimal outcomes. In addressing the patient's persistent symptoms of SIBO and the TCM diagnosis of Spleen Qi deficiency and damp accumulation, a tailored acupuncture treatment approach was designed. Utilizing disposable acupuncture needles (0.30 mm in diameter and 25 mm in length), the therapy commenced with bilateral stimulation of LI4 (Hegu) (Pic 3), coupled with electrical stimulation (E-stim) at 4.6 Hz for a global analgesic effect lasting 20 minutes. This was followed by targeting the Right Ear point corresponding to the Vagus nerve (Pic 2), alongside ST36 (Zusanli) (Pic 1) using E-stim at 10 Hz for 20 minutes, aiming to enhance gastrointestinal motility and overall digestive health, (Table 1). Additional points included bilateral SP6 (Sanyinjiao) and ST25 (Tianshu) to further support spleen function, regulate the intestines, and address the underlying dampness. This comprehensive treatment plan was crafted to not only alleviate the immediate symptoms but also to tackle the root cause of the patient's condition, promoting long-term improvement in her quality of life and managing the complexities of her SIBO diagnosis.



Pic 1 - Stomach (St)36 The image indicating an acupuncture point referred to as "Stomach 36" (St36). Stomach 36, known as "Zusanli" in Traditional Chinese Medicine (TCM), is one of the points frequently used in acupuncture dealing with conditions related to digestive issues, fatigue, and general wellness. The TCM, precise point location is crucial for the effective practice of acupuncture.



Pic 2 - Ear Vagus Nerve This image shows a close-up view of the acupuncture point highlighting the ear's branch of the Vagus nerve. This point is a part of auricular acupuncture, a subset of acupuncture where the ear is viewed as a microsystem representing the entire body. Stimulating the auricular branch of the Vagus nerve can be used for various therapeutic purposes, such as managing stress, pain, and some chronic conditions The red mark serves as a guide for the precise location for needle placement or pressure application in acupuncture or acupressure treatments.

Electro-Acupuncture Protocol Chart				
Acupuncture Point	Location	Frequency	Duration	Therapeutic Intent
LI4 (Hegu)	Between the thumb and index finger, on the back of the hand	4.5 Hz	20 min	Induces a general analgesic effect, promotes Qi circulation
ST36 (Zusanli)	4 finger breadths below the kneecap, one finger breadth lateral to the anterior crest of the tibia	10 Hz	20 min	Enhances gastrointestinal motility, strengthens the spleen and stomach, boosts energy
Right Ear Vagus Nerve Point	In the concha of the ear, at the vagus nerve projection area	10 Hz	20 min	Stimulates the vagus nerve to enhance parasympathetic regulation improving digestive function and reducing inflammation

Table 1 - The table outlines an Electro-Acupuncture Protocol Chart with specific details on the acupuncture points used, their locations, the frequencies and durations of the electrical stimulation applied, and the therapeutic intent for each point.

Note: An EAM Point Select Digital with Needle stimulator was used, employing Serin Needles (0.30 mm in diameter and 25 mm in length) for the treatment.



Pic 3 - Large Intestine (LI)4 The image depicts the electroacupuncture device attached to the area labeled as the "Large Intestine 4" (LI4) acupuncture point. The LI4 point, known as "Hegu" in Traditional Chinese Medicine, is located on the back of the hand, between the thumb and index finger. The digital readout on

the device shows the settings and intensity of the stimulation being applied.

The LI4 point is commonly used to treat a wide range of conditions in acupuncture, including global analgesia and other disorders associated with the large intestine in Chinese medicine theory.

Outcomes Week 5

The data from the patient's questionnaires, comparing February 14th to March 10th, reveals significant improvements across a spectrum of gastrointestinal symptoms. Notably, the frequency and severity of abdominal pain have been halved, alongside a reduction in bloating and distension, indicating considerable relief in discomfort. Additionally, there's a positive shift towards more regular and less troublesome bowel habits, accompanied by a decrease in both the frequency and bothersomeness of gas or flatulence. While the frequency of sudden urges for bowel movements and incontinence showed modest to no change, respectively, the most striking outcome is the substantial improvement in the patient's quality of life. The reduction in how much these symptoms affect daily activities—from a high level of impact to minimal—suggests a significant enhancement in the patient's overall well-being and ability to engage in daily routines, underscoring the effectiveness of the treatment or management strategies employed during this period.

Outcomes week 7

By the seventh week, the patient has seen remarkable improvements in their gastrointestinal symptoms since starting treatment. Abdominal pain and bloating have become minimal, with bloating discomfort completely eliminated. The patient's bowel habits are described as nearly normal, with a regulated frequency of bowel movements, showcasing a well-managed digestive system. Occasional experiences of gas no longer cause any discomfort, indicating effective symptom management. While there are occasional urgencies for bowel movements, instances of incontinence are now rare or easily

manageable, suggesting these symptoms are not causing significant distress. Most notably, the impact of these symptoms on the patient's daily activities and quality of life has dramatically improved, demonstrating an enhanced overall well-being and the ability to engage in daily routines without major disruptions from gastrointestinal symptoms. The additional comments from the patient, noting increased energy levels, improved eating habits, and a newfound comfort with eating that contrasts sharply with previous discomfort, offer further insight into the transformative impact of the treatment on her quality of life. These subjective experiences are pivotal, as they extend beyond the quantifiable improvements in specific gastrointestinal symptoms to encompass broader aspects of health and well-being. The patient's improved relationship with food marks a significant shift. Gastrointestinal disorders can lead to a fraught relationship with eating, where food becomes associated with discomfort, pain, and other distressing symptoms. The patient's statement that she is "not afraid of eating as before" highlights a profound change in her psychological and emotional stance towards food, moving from fear and discomfort to confidence and ease. This change likely contributes to her improved eating habits, as a healthier psychological approach to food allows for more balanced and nutritious choices, further supporting her physical health and recovery (Table 2).

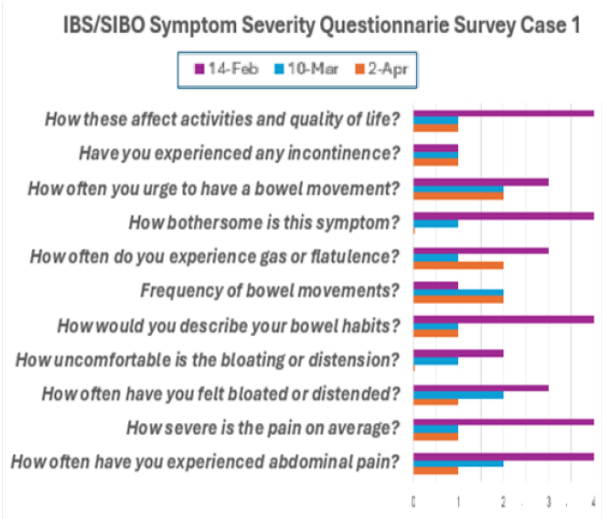


Table 2 - The provided image is a bar graph representing the results from an IBS/SIBO Symptom Severity Questionnaire Survey for a specific case. The graph is comparing responses on three different dates, 10 March, 14 February, and April 2 across various symptoms associated with Irritable Bowel Syndrome (IBS) and Small Intestinal Bacterial Overgrowth (SIBO).

Case 2

The narrative of a 44-year-old woman, 69 kg and 150 cm tall, battling the intricate symptoms of Irritable Bowel Syndrome (IBS) brings to light the multifaceted nature of this gastrointestinal disorder. Characterized by symptoms such as cramping lower abdominal pain, heartburn, fluctuating bowel habits, and pronounced bloating, her journey underscores the challenges inherent in both diagnosing and effectively managing IBS. Despite following a regimen of omeprazole, prokinetics, and probiotics, her condition persisted, severely impacting her emotional well-being and necessitating a hospital visit, even though her CT scan returned normal. Her medical history, which includes ovarian cysts and keratoconus, further complicates her health profile. Through Traditional Chinese Medicine (TCM) assessment, her condition was attributed to Liver Qi Stagnation and Spleen Qi Deficiency, with an underlying element of internal Dampness- a nuanced diagnosis that eludes conventional medical tests. This holistic approach not only considers the physical

manifestations of her illness but also recognizes the significant role emotional health plays in her gastrointestinal distress. Embarking on an 8-week treatment plan, she received acupuncture treatments lasting 45 minutes each, enhanced by electro-stimulation (E-Stim). The treatment strategy was meticulously crafted for her specific TCM diagnosis. Key acupuncture points were targeted, including Bilateral LI4 (Hegu) AT 4.6 hz for comprehensive pain relief, and the Right Ear Vagus Point, linked to ST36 (Zusanli) at 10 hz to simultaneously stimulate the parasympathetic nervous system and reinforce spleen and stomach Qi. This unique approach aimed at not just alleviating symptoms but restoring systemic balance. Additional points like SP6 (Sanyinjiao) and LI11 (Quchi) (Table 1a.) were also incorporated to further support spleen function, rectify imbalances of Heat and Dampness, and ensure regular bowel movements. The inclusion of Yintang served to mitigate stress, acknowledging its exacerbating effect on her IBS symptoms.

Additional Acupuncture Points		
Acupuncture Point	Location	Indications
SP6 (Sanyinjiao)	On the inner leg, four fingers above the ankle	Spleen Qi deficiency, dampness, harmonize intestines
ST25 (Tianshu)	2 inches lateral to the navel	Abdominal pain, bloating, constipation/diarrhea
LI11 (Quchi)	At the elbow, on the outer side of the arm	Heat, inflammation, regulates intestines
Yintang	Midway between the eyebrows	Calms the mind, stress, anxiety

Table 1a - The table is titled "Additional Acupuncture Points" and lists four acupuncture points, their locations, and the indications for which they are typically used in Traditional Chinese Medicine (TCM).

Outcomes week 5

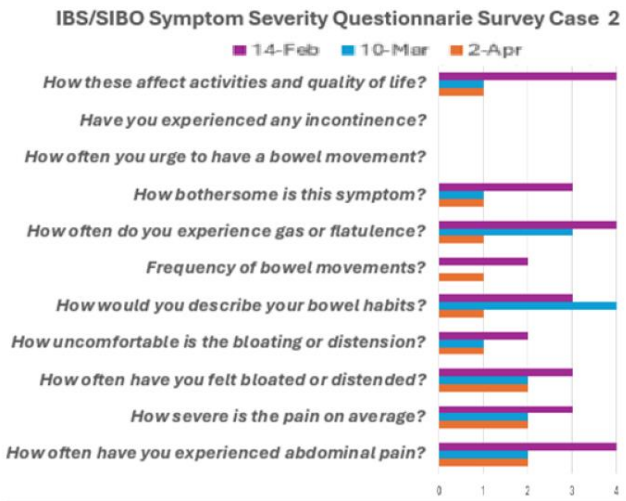
Following the 5-week treatment plan that integrated Traditional Chinese Medicine (TCM) principles with electro-acupuncture, the patient reported significant improvements in her symptoms of Irritable Bowel Syndrome (IBS). Notably, the cramping lower abdominal pain that had been a constant source of discomfort diminished in both intensity and frequency, allowing her moments of relief she hadn't experienced in months. The episodes of heartburn, a relentless companion to her

meals, became less frequent, contributing to a newfound ease in her daily life. Furthermore, the previously unpredictable alternation between loose stools and constipation began to stabilize, moving towards a more regular bowel pattern. Remarkably, alongside these improvements, she experienced an unexpected yet welcome enhancement in her vision—a symptom not directly targeted by the treatment. This physical improvement had a profound impact on her emotional well-being; the bloating that once caused significant stress and discouragement noticeably reduced, enhancing her quality of life and restoring her confidence in managing her condition.

Outcomes Week 7

Comparing the initial findings on February 14th with the outcomes by March 29th for Case 2, there's a significant transformation in the patient's (IBS) symptoms after integrating (TCM) principles with electro-acupuncture. From the start, the patient struggled with frequent and severe abdominal pain, bloating, and disruptions due to irregular bowel habits and distressing episodes of gas or flatulence. These symptoms significantly impacted her physical health, daily activities, and overall quality of life, contributing to considerable stress. By week 7, there's a dramatic improvement across all previously troubling symptoms. Abdominal pain and bloating have been greatly minimized, indicating a major relief in discomfort. The patient's bowel habits have also improved to nearly normal, with a stable frequency of bowel movements, reflecting a well-regulated digestive system. Moreover, the frequency of gas or flatulence has notably decreased and no longer causes discomfort, enhancing the patient's comfort and well-being. Additionally, the patient reports feeling more energetic, a stark contrast to the energy levels at the beginning of the treatment. This increase in energy suggests improved overall health and well-being. Heartburn, a persistent issue since the onset of her condition, has ceased, contributing to her daily comfort and ease.

Remarkably, alongside these physical improvements, the patient experienced an unexpected yet welcome enhancement in her vision. Previously facing the prospect of eye surgery to replace a lens in her right eye for the treatment of keratoconus, she now notes significant sight improvement, (Table 3). **Table 3** (below) - The image shows a bar graph for an IBS/SIBO Symptom Severity Questionnaire Survey for Case 2, comparing the severity of various symptoms on 10 March, 14 February, and April 2.



Case 3

A 57-year-old male 79 kg and 172 cm tall, diagnosed with Small Intestinal Bacterial Overgrowth (SIBO) by Hydrogen Breath Test and having faced repeated ER visits and numerous inconclusive diagnostic tests, was subjected to a multifaceted treatment strategy at our clinic. Despite initiating a holistic protocol that included marshmallow root, psyllium husk, and garlic—aimed at alleviating symptoms and addressing the root cause—he continued to suffer from significant abdominal pain and bloating. This situation led to a deeper investigation through Traditional Chinese Medicine (TCM), which revealed distinct diagnostic insights and opened new pathways for intervention. The TCM evaluation pinpointed Damp-phlegm and Qi Stagnation as the primary contributors to his symptoms. The presence of Damp was evidenced by his

chronic abdominal pain and bloating, whereas Qi Stagnation was linked to his overall discomfort and stress. Armed with this diagnosis, a specific acupuncture treatment plan was devised, incorporating electro-acupuncture to target these imbalances precisely: The patient embarked on an 8-week course of treatment, with weekly 45-minute sessions dedicated to implementing a consistent and comprehensive strategy for optimal results. Addressing both the persistent symptoms of SIBO and the TCM diagnosis of Spleen Qi deficiency and damp accumulation and phlegm, the treatment was customized to meet his needs. Therapy began with bilateral stimulation of LI4 (Hegu) using electro-stimulation (E-stim) at 4.6 Hz for a global analgesic effect lasting 20 minutes. Subsequent sessions targeted the Right Ear point, associated with the Vagus nerve, alongside ST36 (Zusanli) with E-stim at 10 Hz for 20 minutes to boost gastrointestinal motility and improve overall digestive health. Additional points, SP6 (Sanyinjiao) and ST25 (Tianshu), were also utilized to enhance spleen function, regulate intestinal activities, and address underlying dampness. This holistic and comprehensive treatment plan was meticulously designed not just to mitigate the immediate symptoms but also to confront the root cause of the patient's condition, aiming for a long-term enhancement in his quality of life and effectively managing the intricacies of his SIBO diagnosis.

Outcomes week 5

Patient's treatment outcomes for IBS/SIBO, monitored through the IBS/SIBO Symptom Severity Survey over a month, reveal noteworthy progress, especially in bowel habits and incontinence, which significantly improved. While the frequency and severity of abdominal pain slightly decreased, the consistently low scores for bloating and gas suggest these were minor issues that remained stable. Notably, bowel regularity saw a significant positive shift, underscoring the effectiveness of the treatment in addressing specific gastrointestinal symptoms. However, the persistence of gas indicates some symptoms may require ongoing

management. Despite these variations, the minimal impact on the patient's daily activities and quality of life, both before and after the intervention, suggests a high level of adaptability and effective coping strategies.

Outcomes Week 7

On April 2nd, the data illustrates a continuation of the positive trend in the patient's gastrointestinal symptom management, with abdominal pain frequency and severity maintaining a low level, suggesting ongoing control and mild discomfort. Bloating occurrences remained infrequent with no associated discomfort, signifying a significant and sustained improvement. Bowel habits and movement frequency were reported as completely normal, indicative of well-regulated digestive health. Although the frequency of gas or flatulence episodes persisted, the absence of bother indicates successful management of this symptom.

Noteworthy is the complete resolution of the sudden urge for bowel movements and incontinence, a substantial enhancement in the patient's control over their bowel functions. Moreover, the maintained minimal impact of these symptoms on the patient's daily activities and quality of life echoes the continuous benefit and effectiveness of the treatment, contributing to a stable and improved quality of life despite the ongoing management of a gastrointestinal condition.

In the additional comments, the patient notices he does not have any more heartburn than he usually has. He is pleased by having normal bowel movements, and his energy is better, (Table 4).

Discussion

The outcomes gleaned from this study underscore the therapeutic efficacy of electro-acupuncture for gastrointestinal symptoms characteristic of IBS and SIBO. During the study period, from February 14th to April 2nd, a significant enhancement in symptom management was documented via patient questionnaires, resonating with the holistic underpinnings of Traditional Chinese Medicine (TCM).

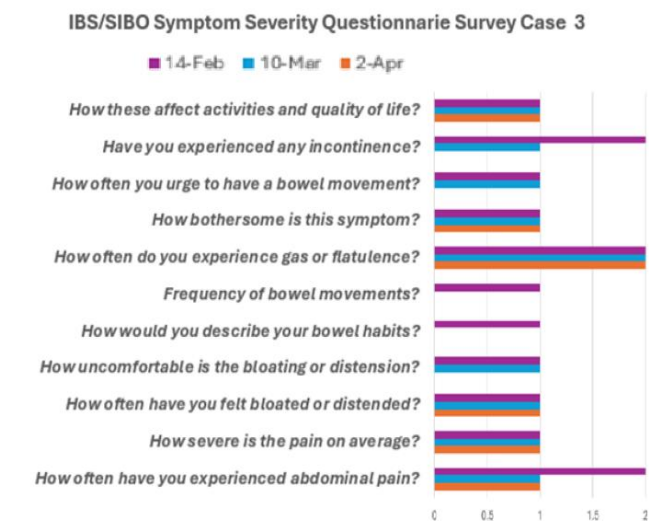


Table 4 - The image shows a bar graph detailing responses from an IBS/SIBO Symptom Severity Questionnaire Survey for Case 3, with data from 10 March, 14 February, and April2.

The introduction of electro-acupuncture notably diminished both the severity and frequency of abdominal pain and bloating, in alignment with TCM's conceptualization of health and pathology. The successful mitigation of these symptoms could be indicative of a restoration of internal balance, particularly in relation to spleen Qi deficiency and the presence of bodily dampness, as understood in TCM philosophy. This therapeutic impact points to the capacity of electro-acupuncture to correct foundational Qi imbalances, adhering to TCM's systemic approach where disturbances in Qi flow precipitate disease manifestations. Throughout the survey analysis, the manifest efficacy of electro-acupuncture, particularly at specified frequencies tailored to address the root causes of the conditions, represents an innovative intersection of traditional insights and modern therapeutic technologies [23]. The findings notably indicated significant reductions in discomfort, normalization of bowel movements, and the establishment of less troublesome bowel habits. These findings suggest that applying such targeted stimulation can profoundly impact gastrointestinal motility and function. This aligns with the burgeoning

body of research advocating for the modulation of the gut-brain axis as a therapeutic strategy for gastrointestinal disorders [24]. While the impact on the urge and incontinence was notably present, the overall improvement in the quality of daily life reinforces electro-acupuncture's potential to fill gaps left by conventional treatment approaches. Advancing into the seventh week of treatment, the patient data underscored exceptional improvements. Reports of decreased abdominal pain and bloating were complemented by some patients experiencing complete relief from bloating. Bowel habits normalized, suggesting effective regulation of the digestive system. Beyond these physical improvements, patients conveyed subjective enhancements in energy and dietary habits, translating into a comprehensive uplift in health status, nutritional uptake, and psychological well-being. This study also illuminated a broad array of improvements, extending the therapeutic reach of electro-acupuncture to conditions such as chronic heartburn and, unexpectedly, to the amelioration of vision in one participant. Such wide-ranging effects further validate the systemic influence of electro-acupuncture and its holistic benefit as a therapeutic modality. The strategic selection of acupuncture points was integral to these clinical outcomes. LI4 (Hegu)[26], an influential point in the acupuncture compendium for treating systemic conditions, alongside the auricular point corresponding to the vagus nerve[25] and ST 36 (Zusanli)[26], were pivotal in facilitating these health benefits. This targeted application exploits the anatomical and physiological correlates of these points with the digestive system and the overall modulation of Qi, suggesting a tailored approach that engages the body's intricate network of energy channels. **Ear Vagus Points and ST 36 in Electro-acupuncture:** **Ear Vagus Point:** The auricular branch of the vagus nerve, accessible through the ear, provides a non-invasive gateway to influence

the parasympathetic nervous system [8]. Stimulation of these points can enhance vagal tone, which is pivotal in regulating gastrointestinal motility, secretion, and inflammation. In the context of SIBO and IBS, where dysmotility and hypersensitivity of visceral are prevalent, enhancing vagal activity can help normalize gastrointestinal function and reduce symptoms (Fig 1).

VAGUS NERVE PATHWAY

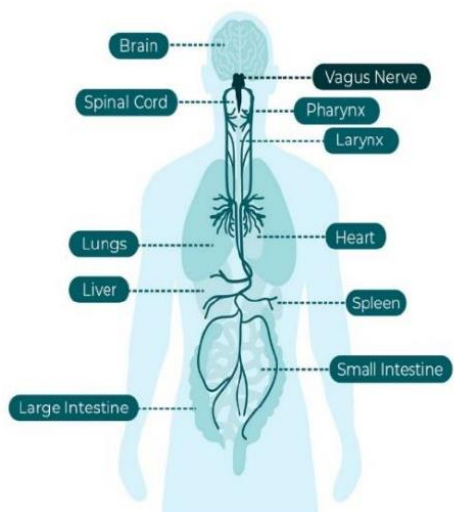


Fig 1. The Vagus Nerve influences the Parasympathetic Nervous System

Source:

<https://cellcore.com/blogs/articles/what-happens-in-vagus-how-the-vagus-nerve-affects-your-health>

ST 36 (Zusanli): ST 36 is a widely used point in acupuncture for its systemic health benefits, particularly in strengthening the spleen and stomach, which in TCM theory are crucial for digestive health. Its stimulation is believed to enhance Qi flow, support immune function, and regulate the functions of the gastrointestinal tract. The use of ST 36 in conjunction with ear vagus points aims to synergize the effects on gastrointestinal regulation with systemic health improvements.

Impact on Controlling SIBO and IBS

Symptoms: The combined stimulation of ear vagus points and ST 36 with electro-acupuncture is theorized to exert a multifaceted impact on SIBO and IBS symptoms through: Enhancing gastrointestinal motility, thereby

addressing issues like constipation or erratic bowel movements. Reducing visceral hypersensitivity can alleviate pain and discomfort. Modulating the gut-brain axis could potentially improve the emotional and psychological well-being of patients, which is often compromised in chronic gastrointestinal disorders. Influencing the gut microbiota directly or indirectly could be particularly relevant for SIBO treatment by helping to normalize bacterial overgrowth.

Rationale Behind the 10 Hz Frequency: The choice of a 10 Hz frequency for electro-acupuncture in these case reports is grounded in neurophysiological research. Low-frequency stimulation, such as at 10 Hz, has been associated with the release of endogenous opioids and other neurochemicals that can modulate pain and promote a parasympathetic response [27]. Specifically, 10 Hz is thought to optimize the balance between relaxation and stimulation within the nervous system, making it particularly effective for conditions like SIBO and IBS where both pain management and the regulation of digestive functions are necessary. Furthermore, this frequency has been linked to enhancing neuroplasticity and vagal nerve activity, underpinning the therapeutic rationale for its selection in treating gastrointestinal disorders.

The use of LI4 (Hegu) with electro-acupuncture at a frequency of 4.6 Hz for the treatment of IBS and SIBO as described in the case report is a thoughtfully chosen intervention that melds TCM principles with contemporary understanding of neurophysiological mechanisms [6]. This analysis explores the rationale behind this 22 choice and examines the impact it has on controlling the symptoms of IBS and SIBO.

Rationale for Using LI4 (Hegu): LI4 is one of the most commonly used points in acupuncture, known for its wide-ranging effects on pain relief, immune modulation, and its role in treating digestive issues. In TCM, LI4 is considered a powerful point for moving Qi and Blood within the body, helping to alleviate stagnation and harmonize the functions of the intestines. This makes LI4 particularly relevant

for conditions like IBS and SIBO, where dysregulation of gut motility and inflammation are prevalent. The stimulation of LI4 is believed to influence the enteric nervous system, which can help normalize bowel movements and reduce the pain and discomfort associated with these gastrointestinal disorders.

Significance of 4.6 Hz Frequency: The choice of a 4.6 Hz frequency for electro-acupuncture at LI4 is grounded in neuroscientific research that suggests low-frequency electrical stimulation can have profound effects on the body's pain modulation systems and inflammatory responses. Specifically, 4.6 Hz falls within the delta frequency range, which is associated with the enhancement of the body's natural healing processes, including the promotion of restorative sleep, reduction of cortisol levels, and improvement of immune function. This frequency is thought to stimulate the release of endogenous opioids and other neurochemicals that can attenuate pain and modulate the autonomic nervous system and help with general analgesia. For patients with IBS and SIBO, where pain, bloating, and discomfort are significant symptoms, the application of electro-acupuncture at this frequency may offer a therapeutic benefit by reducing the visceral hypersensitivity and inflammation that contribute to their condition. The 20-minute duration for electro-acupuncture treatments is chosen to stimulate neurological and physiological responses effectively, including endogenous opioid release and autonomic system modulation, while ensuring patient comfort.

Incorporating additional no electrical stimulated acupuncture points such as SP6 (Sanyinjiao), Yintang, LI11 (Quchi), and ST25 (Tianshu) into the treatment plans for IBS and SIBO patients exemplifies a holistic approach, blending Traditional Chinese Medicine (TCM) principles with modern clinical practice to address the multifaceted nature of these conditions. SP6 supports digestive and emotional health by harmonizing spleen Qi, enhancing nutrient absorption, and reducing stress-related

symptom exacerbation. Yintang's calming effect mitigates stress and improves sleep, which is crucial for managing the gut-brain axis influence on gastrointestinal symptoms [7]. LI11 offers anti-inflammatory and immune-modulating benefits, directly impacting the inflammatory processes underlying IBS and SIBO. ST25, by targeting intestinal functions, plays a pivotal role in normalizing bowel movements and alleviating abdominal discomfort, significantly improving patients' quality of life.

The current landscape of research on the efficacy of acupuncture for IBS/SIBO symptoms, while affirming its benefits, often does not reflect the depth and individualized nature of treatments observed in detailed clinical case reports. Systematic reviews and meta-analyses, such as those by Manheimer et al. (2012) [28], offer valuable insights yet may overlook the intricacies of personalized approaches and the comprehensive outcomes achieved through electro-acupuncture combined with Traditional Chinese Medicine (TCM) diagnostics. Our case reports shed light on the utilization of a holistic treatment strategy, specifically incorporating ear vagus point and ST 36 with electro-acupuncture at tailored frequencies (10 Hz for systemic regulation and 4.6 Hz for pain and inflammation), in conjunction with additional 23 acupuncture points directly address the root causes of IBS and SIBO as delineated by TCM. This contrasts with the methodology of randomized sham-controlled trials Zhong, Lam, Yang, Zheng, Lyu, Bian et al. (2021) [29] which typically employ a structured experimental design to measure the efficacy of electro-acupuncture against a sham procedure in a controlled setting, focusing on minimizing bias and objectively establishing causal relationships. However, such trials might adhere to standardized treatment protocols that lack the personalized diagnostic and treatment principles essential to TCM, potentially limiting their ability to fully capture the treatment's effectiveness for individual patients.

While our case reports provide rich, detailed observations and underscore the potential for personalized, integrative treatment strategies in managing complex gastrointestinal disorders within real-world clinical settings, their limitations include a smaller number of cases, length of research and the absence of a control group. On the other hand, randomized trials offer strong evidence of efficacy that can inform clinical guidelines and foster the broader acceptance of electro-acupuncture in conventional treatment paradigms for IBS, yet they might not fully embrace the personalized nature of TCM treatment. Together, these approaches highlight the need for a balanced integration of rigorous evidence-based research and the nuanced, individualized care principles of TCM to advance the understanding and application of electro-acupuncture in gastrointestinal health [30], encouraging both the adoption of holistic, personalized treatment strategies and further research into the mechanisms driving observed therapeutic effects.

In managing IBS/SIBO, the precise application of electro-acupuncture at ear Vagus point ST 36 and Li4 utilizing specific frequencies of 10 Hz for systemic regulation and 4.6 Hz for pain and inflammation, has shown notable symptomatic improvement. This method not only alleviates symptoms but also targets the root energetic imbalances, consistent with Traditional Chinese Medicine principles. Such an approach highlights the effectiveness of customized treatment strategies, offering a model for integrating traditional knowledge with modern clinical practices in gastrointestinal disorder management. This clinical insight emphasizes the importance of personalized, holistic care approaches, particularly valuable in cases resistant to standard medical treatments. It encourages further exploration into the mechanisms underlying these therapeutic effects.

Data Availability Statement

The datasets generated and/or analyzed during the current study are not publicly available due to privacy concerns and the sensitive nature of the medical information collected, which could

potentially be used to identify individual patients. However, the data are available from the corresponding author upon reasonable request, subject to any necessary anonymization, and in compliance with applicable data protection regulations.

Ethics Statement

This study was conducted in accordance with the ethical standards of the institutional research committee at the National University of Health Sciences and with the 1964 Helsinki Declaration and its subsequent amendments or comparable ethical standards. Informed consent was obtained from all individual participants involved in the study, ensuring a clear understanding of the research's purpose and the use of the data collected.

Author Contributions

The author conceptualized and designed the study, developed the methodology, performed the treatments, and 24 collected data. She also conducted the data analysis, drafted the initial manuscript, and revised it critically for important intellectual content. Mabel Angel approved the final manuscript version to be published and agrees to be accountable for all aspects of the work.

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Conflict of Interest

The author declares no conflicts of interest regarding this paper's publication, ensuring research objectivity and reporting transparency.

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Acupuncture for Pelvic Inflammatory Disease in Middle Aged Women causing Infertility: Case Report and Literature Review

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Abstract: Pelvic inflammatory disease, or (PID) is an acute diagnosis in women statistically reported every year ages 16-25 possibly leading to unknown infertility (15). Usually, Pelvic Inflammatory Disease is the result of a bacterial infection spreading throughout the pelvic cavity of a woman's reproductive system such as the fallopian tubes, uterus, ovaries, and cervix (15). The two common STDs linked to the root cause of PID are gonorrhea and chlamydia. Signs and symptoms that may happen in women's bodies are lower abdominal pain, vaginal discharge with odors, painful intercourse, and irregular menstrual cycles. These symptoms must be treated by a medical provider. But how can they when your infertility may be happening silently? Chlamydia

for example can be silent without any symptoms of any kind and causes major damage to the reproductive organs, especially the fallopian tubes (15). If this is the case and no antibiotics or medicines have been taken to treat the problem, there is a strong possibility that PID will produce chronic scarring (3). Eastern medicine such as acupuncture for infertility has become an alternative medical option for women across the world. In Traditional Chinese Medicine (TCM), PID in its acute stage is known as damp heat (DH) in the body in addition to blood stasis (BIX). This is normally a pattern seen in blocked fallopian tubes. Interestingly, although symptoms may resolve after treatment, the inflammatory response can remain. Like the effect of western antibiotics treating an underlying infection and it goes away except the goal from an eastern perspective is to fix the root cause and restore the body's overall health. Acupuncture points used to treat PID are Sp 9, St 30, St 40, and Lv 8 to name a few; herbs such as Gui Zhi Fu Ling Wan to move blood stasis. A trail of acupuncture, Chinese herbs, diet, and lifestyle changes, clinically proven to decrease pelvic inflammatory disease causing blocked fallopian tubes to break up scar tissue, may increase the chance of conception. Here is a case that reports a Black woman with Pelvic Inflammatory Disease and 90% bilateral fallopian tube obstruction diagnosed at age 38 years. To attempt pregnancy, she elected a trial of acupuncture and Chinese herbs. She is currently on her second cycle of treatment and has not conceived yet. Reports call for a concerted effort to define the best methods by which to optimize fertility for women who have PID.

Keywords: pelvic inflammatory disease, pregnancy, blocked fallopian tubes, acupuncture, Chinese herbs

Introduction

The diagnosis for pelvic inflammatory disease (PID) needs to be considered in the differential diagnosis for any woman of reproductive age who presents with infertility developing <40 years of age. The disorder is a clinical range of impaired ovarian function. When PID is in its acute form, it often produces a condition of damp heat (DH) in the body, accompanied by Blood stasis (BIX) and Liver Qi stagnation (Lv Qi X). (This is also a common pattern seen with fallopian tube obstruction (Randine, 2004).

In this case report, a woman is described who presented with pelvic inflammatory pain and 90% bilateral fallopian tube obstruction at 38 years of age. At age 41, she received a diagnosis of endometriosis/blood stasis. Most fallopian tube obstructions have blood stasis (BI X) as an underlying pattern and produce no overt symptoms other than infertility. Acupuncture and herbs were employed respectively to remove or reduce the adhesions and thickened walls in the fallopian tubes.

As a common disorder, PID and blocked fallopian tubal obstruction from a western medicine perspective are normally treated with surgery (Kopolovic 1982). However, from an eastern medicine perspective, (1) the pathophysiology of PID and Fallopian tubal obstruction and (4) the

many benefits by providing acupuncture and herbs for infertility and (3) the possibility of pregnancy is all appreciated.

Case Report

Clinical History

In July 2020, at age 38, a previously healthy Black woman whose occupation is a teacher weighing 163 pounds at 5 feet four inches tall consulted with a reproductive endocrinologist to discuss her desire to have more children after trying for 4 years. She has had two successful pregnancies previously with no history of complications. Her ultrasound exam seemed normal. However, her HSG (hysterosalpingogram) exam was positive for 90% bilateral fallopian tubal obstruction. She was recommended to opt for IVF (in-vitro fertilization). However, she was against it and wanted to try a more natural approach. Prior to learning the status of her reproductive issues, she suffered from excruciating to mild pelvic pain post menstrual for a day or two releasing a sharp pain in the left ovary. Her menstrual cycle occurs normally every 25-26 days for 5 days. For the next few years, she received alternative holistic treatment. She had yoni steams, herbal teas, womb massages, castor oil pack for the stomach, and vaginal detox suppositories for 3 months during the year of 2021. Following those treatments, she took regimens of various American herbs and hormone supplements the latter years.

Acupuncture Treatment

On January 22, 2024, she presented to an acupuncturist at The Balance Point clinic in Alabama traveling 1 hour and 30 minutes away with a 3-and-a-half-year history of pelvic inflammatory disease and bilateral tubal obstruction.

There was also a noticeable increase in sleep deprivation because of the dark areas underneath the eyes. Her tongue was dark with small, flat blemishes or discolorations on the edge/dark papillae (bumps). The tongue is showing a darker purplish color bilaterally on the edge papillae bumps with small flat blemishes.

Her pulse was taut or wiry, like a guitar string, and “choppy” – coming and going roughly.

Her pattern diagnosis was Qi stagnation (Qi X) caused by Blood Stasis (BI X). The acupuncturist recommended doing six treatments for three months pre pregnancy every 2 weeks. If there is still no positive pregnancy test after 3 months, acupuncture and herbal treatments will continue for 6-9 months until a full year has coursed and then to plan b per doctor’s recommendations. The acupuncturist recommended the patient get a second HSG test to observe whether any of the alternative therapies may have benefited and caused the accumulation of scar tissue of the fallopian tubes to lessen. But finances permitted her from getting an up-to-date procedure and she insisted on moving forward with the acupuncture treatments. Moreover, for treatment 1 (given January 22, 2024) she received a 50 minute treatment of acupuncture using points Sp10, St 30, St 36, Zigong, St29, Ren 3, Ren 4, and the ear triangular fossa (Figure 1)

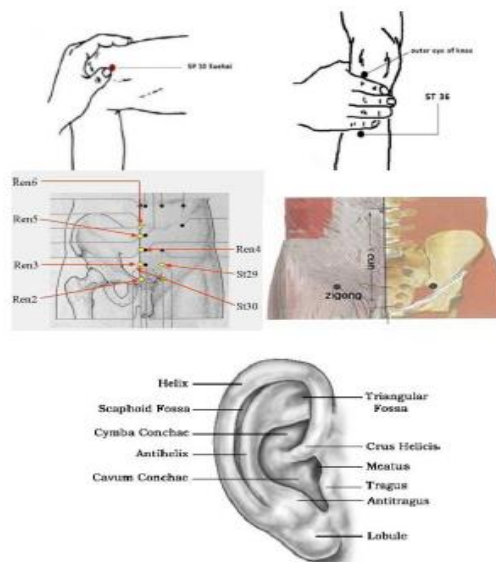


Figure 1. Diagrams of Acupuncture Points used during patient’s treatment

The needles used were 30 mm long and 0.14 mm in diameter. The acupuncturist inserted the needles 10mm deep perpendicular to the skin. After the treatment, the acupuncturist prescribed the Chinese patent formula Four Substances Decoction with Safflower and Peach Pit (Tao Huang Si Wu Tang) as the appropriate treatment. The patient was administered to take three pills twice a day with or without food between treatments. On February 2, 2024, she received her second acupuncture treatment using the points Sp10, St 30, St 36, Zigong, St29, Ren 3, Ren 4, and the ear triangular fossa for 50 minutes and prescribed the Chinese herbs Tao Huang Si Wu Tang to take three pills two times a day with or without food. On February 21, 2024, the patient received her third acupuncture treatment using the points Sp10, St 30, St 36, Zigong, St29, Ren 3, Ren 4, and the ear triangular fossa for 50 minutes. Post treatment, the patient did not receive a new supply of Chinese herbs because the last bottle was not empty. Acupuncture treatments continued every two weeks.

Treatment Response

After three treatments, the acupuncturist noticed the patient’s tongue pattern had improved by showing less purple color (indicating a decrease in blood stasis) bilaterally. The patient’s tongue diagnosis appeared to be showing slight blood stasis with blood deficiency (Figure 2).



Figure 2 Patient's Tongue Diagnosis showing Blood Stasis

However, a big improvement from the first acupuncture treatment. Post treatment the patient is recommended to take a pregnancy test on day 28 of her menstrual if cycle has not started. If test is negative and the test reads not pregnant, the patient will begin a stronger herbal supplement administered by the acupuncturist on the first day of her cycle and will plan for the next treatment in a month. The patient's cycle did not show up on the usual 26 days. Nor did it come day 28. The patient did take a pregnancy test April 6, 2024 (Day 33 of her menstrual) showing a negative result. However, her menstrual cycle came April 7, 2024, and she started her new herbal treatment of Jade Dispense 2 taking 2 supplements twice a day. The patient has not conceived yet and is still ongoing acupuncture treatments.

Discussion

Thus far, the case report suggests that acupuncture may have a positive effect on 30 moving the blood stasis causing infertility with an underlying root cause of pelvic inflammatory disease. The acupuncture points used were SP 10 (Sea of Blood) can be located two inches above the upper border of the kneecap toward the inside of the upper thigh. The Sea of Blood is extremely important in treating any menstrual disorder involving blood stasis (1). SP 10 harmonizes menstruation, invigorates (thins) the Blood, and helps resolve abdominal masses as well as blood stasis conditions. SP 10 cools the blood and used in women diagnosed with uterine fibroids, endometriosis, and clotty, dark menstrual flow. ST 29 (Return) is located two inches out from the midline, four inches below the navel. This point warms the pelvis, regulates menstruation, and treats

fertility disfunction, pain and swelling in the genital region. ST 30 (Rushing Qi) is located on the lower abdomen, five inches beneath the navel and two inches lateral to the midline, just above the superior border of the pubic symphysis. The point represents the crossing point of the Penetrating meridian with the ovaries, fallopian tubes, and the uterus. ST 30 also helps to disperse cold and stagnation in the pelvis. ST 36 (Lower Sea of Qi) can be located by holding your leg straight and measuring three inches below the kneecap at the top of the fleshy musculature, one inch to the outer side of the crest of the upper shinbone. The point is responsible for strongly tonifying the Qi, giving the patient more vigor after its stimulation. ST 36 nourishes the Blood and Yin. Ren 3 (Central Pole of the Conception Meridian) is located on the midline four inches below the navel. This point represents the center of the body on both a horizontal and vertical plane. It derives its translation, Central Pole, from the Chinese word for "North Star," which is the center of the sky. It lies over the Uterus on the Conception meridian and regulates menstruation, fortifies the Kidneys, benefits the Urinary Bladder, and removes stagnation and dampness from the pelvis. This point is known to "water the uterus" or subdue toxic heat found in conditions like endometriosis. Ren 4 (Origin of the Source of the Conception Meridian) is located on the midline, four inches below the navel. This point represents the source of life, the *Dan Tien*, and the site of the Uterus. It fortifies the original Qi (the life force you inherit from your parents), nourishes Kidney Essence, and assists conception. Blood and Diaphragm) is next to the lower border of the shoulder blade at the same level as the seventh thoracic vertebra, on the most prominent point of the spinal musculature. The Back Point of the Blood treats all diseases of the Blood: it cools hot conditions and resolves Blood Stasis. Zigong (Palace of the Child) is located four inches below the navel and three inches lateral to the midline, this point most closely represents the ovaries and is known for uterine and menstrual problems, especially infertility. Stimulating Zigong also helps resolve cases of cervical stenosis (a narrowing of

the canal between the uterus and the cervical opening). Ear Triangular Fossa is in the upper part of the ear, this area contains points that stimulate the Uterus and fallopian tubes, calms the spirit, regulates the sympathetic nervous system, and reduces overall tension.

The Chinese herbal formula Tao Huang Si Wu Tang prescribed to the patient she reported gave her diarrhea after consumption the first week. After one week of taking the herbs, her bowels returned to normal.

Based on this case, there is still not enough evidence to support that acupuncture can assist with pelvic inflammatory disease-causing infertility at this time. However, the tongue diagnosis did appear to change in color and show improvement indicating less blood stasis which may be due to the positive effect of acupuncture and Chinese herbs. 31

Data Availability Statement

The raw data supporting the conclusion of this article will be made available by the author.

Ethics Statement

Ethical review and approval were not required for the study on human participants in accordance with the local legislation and institutional requirements. The patient provided their written informed consent to participate in this study. Written informed consent was obtained from the individual for the potentially identifiable images or data included in the article.

Author Contributions

The Balancing Point conducted the acupuncture treatments. The author discussed the results in the final article.

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The author did not receive any funding to complete this research study but would like to give gratitude to The Balancing Point Clinic in Alabama for its cooperation in this study.

Conflict of Interest

The author's research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest

Acknowledgments

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Efficacy of Theta Binaural Beats in conjunction with Acupuncture and the effect on migraine headaches- A Case Report and Literature Review

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Abstract: Migraines are a common occurrence for a majority of people in today's society. Many who suffer with migraines have tried multiple therapies such as pharmaceutical drug interventions, Botox, over the counter medication, pressure points, massage, essential oils and dark, quiet places. One form of treatment that is proving effective for people who want to go a more alternative route or in combination with other therapy is acupuncture. This case report explores the benefit for using binaural tones with acupuncture to decrease the frequency and intensity of migraines. Two patients, females, presented with Taiyang (occipital) migraines on the left side that lead into the neck and shoulder area. The acupuncture treatment main points were Houxi (SI3), Kun Lun (BL60), Tianzhu (BL10), Fengchi (GB20) and others. This treatment was administered weekly for 8 sessions, bi-weekly binaural tones were used with treatment. The patients reported overall improvement by decreased frequency, intensity and duration of their migraines. With the treatments including the binaural tones both patients felt more relaxed during and after their sessions. This case report suggests that acupuncture in conjunction with binaural tones may be a valuable addition to therapy for migraine headache sufferers. Further research is warranted to validate these findings.

Keywords: Acupuncture, Migraine headaches, Binaural tones or beats, alternative medicine, Case report

Introduction

Migraines are a complex neurologic disorder characterized by significant disability in day-to-day life due to pain and symptoms associated with attacks. It is commonly characterized by a unilateral, throbbing recurrent headache, often accompanied by photophobia, phonophobia, or nausea [1]. According to the epidemiological statistics, the prevalence of migraines is 3.3%-32.6% in females and 0.7%-16.1% in males [2]. There are four main phases that have been used to describe or characterize the progression of a migraine: premonitory phase, aura phase, headache phase, and postdrome phase [3]. Even though these phases can happen not all migraines follow a linear pattern and not every migraine goes through each of the phases.

Acupuncture is a relatively recent treatment option as people have been turning to

alternative medicine more. Acupuncture is becoming a more sought after treatment for a variety of disorders, but one of the most common treatments is to relieve pain primarily, chronic pain, especially headache and migraine pain [4]. Acupuncture has been reported as one of the most common complementary therapies used worldwide [5]. Now, in western countries it has been met with increasing acceptance as an alternative treatment for migraine and other pain conditions now more than ever [6]. Since acupuncture has a great effect on the central nervous system it is understood how the neurological pain experienced with migraines is so easily affected with treatment. Reports have shown that acupuncture is a useful alternative treatment that reduces the duration and frequency of a migraine—both chronic and episodic [7]. Multiple studies have shown in the

research levels an advantage with acupuncture over sham acupuncture [8,9], and there is moderate evidence for acupuncture being at least equivalent to conventional drug therapy (e.g., topiramate, for episodic migraine prevention), with one study proposing the superiority of acupuncture over propranolol based on an indirect comparison analysis [7,10].

When understanding the basics of acupuncture it aims to realign the flow of Qi through the body and balance a person's internal yin and yang to re-establish harmony [11]. This is done using meridians or channels on the body that make up a map of 365 specific points that can be used in combination to harmonize Qi or energy once again [11].

By diagnosing the migraines using TCM there are four different ways to determine what type of migraine headache it is due to location and what combination of main points is best used to treat. A Shaoyang headache is located on the side of the head, eyes and temples; the correlating main points used are Waiguan (SJ5) and Yang Ling Quan (GB34). A Yangming headache is located on the frontal portion of the head or forehead, and the correlating main points used is Hegu (LI4) and Neiting (ST44). A Taiyang headache is located on the back of head, neck and shoulders and the correlating main points used are Houxi (SI3) and Kun Lun (BL60). A Jueyin headache is located on the top of the head and maybe the sides with a dull ache everywhere and the correlating points used are Taichong (LR3) and Qiu Xu (GB40) [12]. There are multiple supplemental points that are used depending on the location and other symptoms experienced with the migraine.

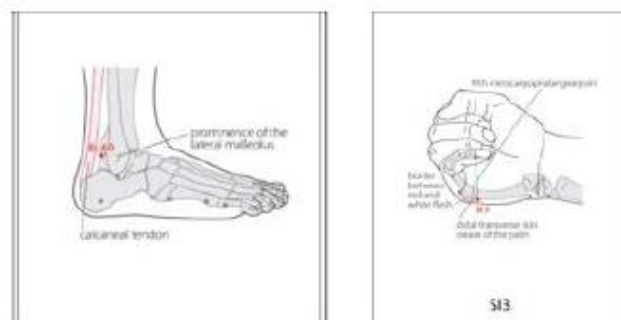


Figure 1 Locations of BL60 and SI3

Supplemental points for a Taiyang headache are Hegu (LI4), Wangu (GB12), Fengchi (GB20), Jianjing (GB21), Tianzhu (BL10), Xiaxi (GB43), Xingjian (LR2), Dazhui (GV14) and Baihui (GV20). Some are due to location of the point such as Tianzhu (BL10) would be indicated for location of headaches, Fengchi (GB20) would be indicated for location of headaches, Dazhui (GV14) would be indicated for stiffness of the spine and neck, Baihui (GV20) would be indicated for one-sided headaches, Wangu (GB12) would be indicated for location of headaches.

Migraines are difficult to treat, and current treatment options have many unwanted side effects and can even aggravate the headache pain in those suffering with chronic migraines [13]. This leads many clinicians and researchers to turn to alternative forms of therapy, such as acupuncture, for pain management and healing for those who suffer from migraine refractory of standard pharmacological treatment.

Drug therapy is the current primary treatment for acute migraine [14]. For long-term prevention, common medications prescribed are beta-blockers, antidepressants, calcium-channel blockers, anticonvulsants, and angiotensin-converting enzyme inhibitors [15,16]. Botox or also known as Onabotulinumtoxin A, has also been shown to be an effective strategy that is now being used for prophylactically treatment of chronic migraine headaches [17]. The standard treatments for migraines today include non-steroidal anti-inflammatory drugs, anti-epileptic

drugs, ergotamines, and triptans.

Pharmaceuticals often having undesirable adverse effects often occurred [18], such as fatigue, sleep disturbance, nausea, and vomiting [19] which lead to poor compliance of patients.

Pharmaceutical interventions are most often used for the reduction of perceived pain intensity but may have adverse side-effects or lack long-term pain-relieving efficacy [20,21]. Alternative interventions can be used to avoid side-effects and help reduce pain intensity. There is evidence that neural oscillations of cortical and subcortical structures at specific frequencies contribute to pain perception [22]. These oscillations reflect rhythmic fluctuations of neural activity in the brain. Experimental studies using electroencephalography (EEG) have shown pain-related changes to neural oscillations in theta (4-7 Hz), alpha (8-13 Hz), beta (14-29 Hz) and gamma (30-100 Hz) frequency bands. It has been studied that Theta waves have a response to pain. As shown by neural oscillations in pain perception it may suggest an added assist to pain management.

Case Descriptions

Case 1:

Clinical history

A 42 year old woman was diagnosed by a neurologist with migraines. The onset of her migraines started when she was 18-19 years old. She has multiple migraines a month, about 6-10 on average. The migraines usually last anywhere from 3-12 hours with migraine medicine and several days without medicine. On a scale of 1-10 with medication the migraines will be about a 6/7 but with no medication they can reach a 12. The migraine is usually located on the back of the head on the left side in the occipital area to mastoid, down the neck in a throbbing/pounding feeling. Her migraines wake her at night. She has noticed that rest, massage, keeping hydrated and sodium dense caffeine helps a bit. She can experience any of these symptoms before or during a migraine headache; getting nauseous, vomiting, bothered by light, sometimes experiences flashing or sparkling of colored

lights and has blurry wavy heat like lines occur before a migraine. She has noticed that any of the following can make a migraine worse or bring it on; stress, let down after stress, certain foods, quick weather changes, certain smells, and her menstrual cycle. She does have other family members who have been diagnosed with migraines. She does use Botox to help with her migraines every 3 months. She feels like this treatment helps cut the migraine time in half. It is injected along the scalp and in her neck and shoulders. She does have prescription medication that she takes at the onset of a migraines, *Ubrelyvy*. She feels her migraines extremely affect her quality of life.

Acupuncture treatment

Acupuncture treatments started on February 20, 2024. At the Tri-City Health Care clinic. She has been getting treated two times a week for 5 weeks, 8 sessions total. Alternating weeks using binaural beats at 6 Hz, theta waves. The binaural beats were used on weeks 2 & 4. After obtaining informed consent, the patient laid on the table in supine position. Clean needle technique was followed by cleaning each acupuncture point with alcohol on the 11 acupuncture points. The migraine pattern being a Taiyang migraine which leads into the neck and shoulder area, the point selected are Houxi (SI3), Kun Lun (BL60), Hegu (LI4), Wangu (GB12), Fengchi (GB20), Jianjing (GB21), Tianzhu (BL10), Xiashi (GB43), Xingjian (LR2), Dazhui (GV14) and Baihui (GV20). For the needles, one time use, stainless steel needles of 0.18mm x 15mm and .20mm x 30mm with depth ranging from 0.3cun to 1cun was used. The treatment lasted for 30 minutes without any manipulation.

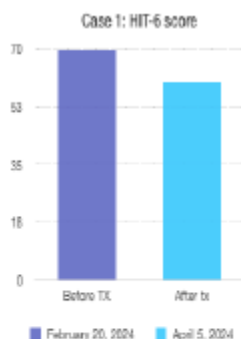
When binaural beats of 6Hz, Theta, was used it was listened to during the entire duration of treatment through headphones.

Outcome Measures

Two widely used and accepted questionnaires for measuring headaches and the impact they have on daily life are Headache Impact Test (HIT-6) and HURT (Headache Under-Response to Treatment). Both of these questionnaires are short and easily administered. The HIT-6, is a six item impact

test which was developed to use in screening and monitoring patients with headaches in both clinical practice and clinical research [23,24]. The HURT is an 8 item self- administered questionnaire addressing headache frequency, disability, medication use and effect, patients' perceptions of headache "control" and their understanding of their diagnoses. Its scope is unique among outcome measures [25]. These questionnaires were administered the first day before any treatment began and were then again given at the 2 week follow-up session.

HIT-6 questionnaire scoring decreased by 10 points (70 to 60) after 8 sessions of treatment. HURT questionnaire scoring showed that her amount of headache days decreased, her ability to do work or household work increased and she now feels more in control of her headaches.



Little or no impact=HIT-6 score 49 or less. Some impact=HIT-6 score 50-55. Substantial impact=HIT-6 score 56-59. Severe impact=HIT-6 score ≥60.

Figure 2 Treatment Response

The patient experienced being very cold, and very thirsty after her treatment. When this was discussed the Xingjian (LR2) point was removed because it was a fire point and working in combination with Kun Lun (BL60) it was thought that too much heat was being expelled. The treatment following the removal of Xingjian (LR2), the patient noticed not being cold and 50% less thirsty. It diminished even further with every treatment not using Xingjian (LR2). The participant also noticed a decrease in migraines during her hormonal cycle.

At the 2 week follow-up she stated that the amount of migraines she had during the month decreased, along with intensity and she was able to decrease the amount of medication she needed to take to help get the migraine under control. During the 2 weeks of no treatment she experienced 4 migraines. She had very bad nausea accompanying the migraines. She also stated that her occipital area was very sensitive to touch. She stated that during the weeks using the binaural beats she noticed less migraine onset symptoms and she felt more relaxed.

Taking all of this into consideration, this patient might benefit from treatment being more that just 2 times a week during difficult migraine weeks.

Case 2: Clinical history

A 49 year old woman was diagnosed by a neurologist with migraines. She has multiple migraines a month, about 3-5 on average. The migraines usually last anywhere from 12-24 hours without medicine, she was prescribed medicine when she was first diagnosed but didn't feel like it helped and hasn't taken anything but some over the counter medication when necessary. On a scale of 1-10 with medication the migraines will be about an 8 with no medication. The migraine is usually located on the back of the head on the left side in the occipital area to mastoid process, down the neck in a throbbing/pounding feeling. Sometimes her migraines can also be above both eyebrows. She has noticed that pressure over the migraine area helps a bit. She can experience any of these symptoms before or during a migraine headache; feeling lightheaded, blurred or double vision and vomiting (usually only happens 2-3 times a year). She has noticed that any of the following can make a migraine worse or bring it on; stress and muscle tension. She feels her migraines extremely affect her quality of life.

Acupuncture treatment

Acupuncture treatments started on February 20, 2024. At the Tri-City Health Care clinic. She

has been getting treated two times a week for 5 weeks, 8 sessions total. Alternating weeks using binaural beats at 6 Hz, theta waves. The binaural beats were used on weeks 2 and 4. After obtaining informed consent, the patient laid on the table in supine position. Clean needle technique was followed by cleaning each acupuncture point with alcohol on the 11 acupuncture points. The migraine pattern being a Taiyang migraine which leads into the neck and shoulder area, the point selected are Houxi (SI3), Kun Lun (BL60), Hegu (LI4), Wangu (GB12), Fengchi (GB20), Jianjing (GB21), Tianzhu (BL10), Xiaxi (GB43), Xingjian (LR2), Dazhui (GV14) and Baihui (GV20). For the needles, one time use, stainless steel needles of 0.18mm x 15mm and .20mm x 30mm with depth ranging from 0.3cun to 1cun was used. The treatment lasted for 30 minutes without any manipulation.

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These questionnaires were administered the first day before any treatment began and were then again given at the two week follow-up session.

HIT-6 questionnaire scoring decreased by 6 points (65 to 59) after 8 sessions of treatment. HURT questionnaire scoring showed that her amount of headache days decreased and the

use or need to take medication to help with migraines decreased.

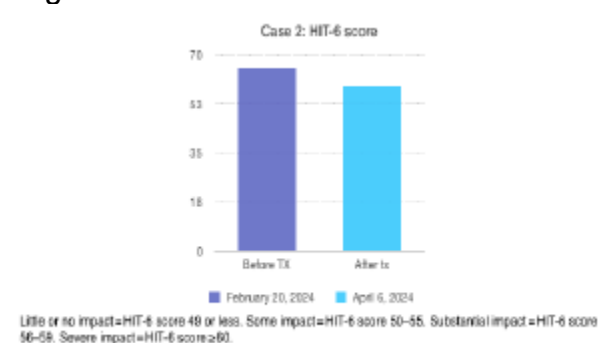


Figure 3
Treatment Outcomes

The patient noticed a major decrease in migraines and better sleep. At her two week follow-up, it was her first migraine in two weeks.

This migraine was a "bad one" and she was having a hard time sleeping because her medication and using pressure points didn't help much with the migraine.

She was very pleased with the treatment. She knew that this is what was helping her because she hadn't changed anything else and stated during weeks with the binaural beats she noticed she was more relaxed.

Discussion

These cases described suggest that acupuncture with binaural frequency has a positive effect on migraine headaches. Taiyang migraines use a combination of Kun Lun (BL60) and Houxi (SI3) as the main points to use for occipital headaches and migraines. Houxi (SI3) is a shu-stream point of the Small Intestine channel and it is a very important point to treat pain, stiffness and contraction along the course of these channels. For this reason it is indicated for stiffness and pain of the neck, difficulty turning the neck, one-sided headaches and bilateral headaches. It is an essential distal point for treating occipital headache, the reason for this is the course of the Small Intestine channel from occiput to paravertebral regions. Kun Lun (BL60) is the fire point of the Taiyang channel. It is able to subdue interior wind, clear heat and lead down excess yang from the head in cases of

headache because the bladder channel courses the back of the head and down the back [26].

Using these acupuncture points in combination with other points has been proven effective in cases of treating occipital neuralgia, migraine headaches and occipital pain.

Both participants felt even more relaxed when the acupuncture treatments were combined with the binaural beats of 6 Hz during their treatment. When using binaural tones it is important to use headphones because each ear is supposed to receive beats at a different frequency so a stereo or speaker does not allow for this effect to take place. These different tones create one low pulse that aids in relaxation, decreases anxiety and desensitized response to pain [27].

There are not many studies showing the effects of binaural beats or tones so it is unclear to know which frequency is the best. Studies of binaural beats in migraine and chronic pain have typically used theta or alpha frequencies ranging from 4-12 Hz [28]. For these cases I chose the frequency of 6 Hz - theta waves. Lastly, in this discussion, the limitations of this case report. First, there are limited studies, showing the effects of binaural beats or tones, and how they truly affect migraine sufferers. With the research that has been done the frequencies that have shown to help the most are between 4-12 Hz (Theta and Alpha waves), that is why I decided on 6 Hz, Theta waves. Second, each patient had about a week without treatment either due to illness or vacation. Third, the patient in case 1 is still using other forms of treatment like Botox treatments once a month and using Ubrelvy at the onset of migraines.

Despite these limitations, our experiences show that acupuncture treatment with the help of binaural tones can be an effective adjunct treatment to help with migraine headaches. Acupuncture treatments with additional binary tone intervention may be a new option for patients who are looking to supplement or relieve their migraine pain.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article. **Funding**

No funding was required for this case report.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationship that could be construed as a potential conflict of interest.

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The Effectiveness of Acupuncture for Osteoarthritic Knee Pain: Case Report and Narrative Review

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Abstract: This narrative review explores the efficacy of acupuncture in managing osteoarthritic knee pain, supported by two detailed case reports and a comprehensive literature analysis. By examining diverse treatment responses observed in the cases, alongside findings from rigorous research, acupuncture emerges as a promising complementary therapy, demonstrating notable pain reduction and functional improvement. Despite acknowledging the need for further research and the existence

of limitations, particularly in standardization and control, the review advocates for the integration of acupuncture into multifaceted treatment approaches for knee osteoarthritis. Such integration holds the potential to enhance patient outcomes and elevate their overall quality of life, underscoring the importance of a holistic approach to knee osteoarthritis management.

Keywords: Acupuncture, osteoarthritis, knee pain, electroacupuncture, Osteoarthritic knee pain

Introduction

Osteoarthritis (OA), a degenerative joint disorder primarily affecting the knees, leads to pain, stiffness, and reduced joint mobility. Traditional treatments include medications, physical therapy, and surgery. However, there's growing interest in acupuncture, a complementary therapy rooted in Chinese medicine, for managing knee pain associated with arthritis. While its effectiveness remains debated, studies suggest acupuncture may alleviate pain, improve joint function, and enhance well-being by modulating inflammation, increasing blood flow, and releasing endorphins.¹⁻⁴ Yet, variations in research design and techniques complicate definitive conclusions.

Understanding acupuncture's role in arthritis management is crucial for healthcare professionals, patients, and policymakers. Traditional Chinese medicine (TCM) categorizes osteoarthritis as "Bi syndrome," referred to clinically as "bone Bi" or "knee Bi". According to TCM, the onset of knee osteoarthritis is linked to factors such as aging, prolonged strain, and exposure to external pathogenic factors. External factors like wind, cold, dampness, and heat contribute to the disease. Internally, liver deficiency affects tendons, and kidney deficiency impacts bones. Prolonged strain or aging leads to liver and kidney deficiency, resulting in weak bones and affecting the joints. Liver deficiency fails to nourish the tendons, leading to tendon spasms, joint pain, and forming internal factors for disease occurrence. The disease's pathological characteristics involve deficiency at the root and excess at the manifestation, with liver and kidney deficiency as the foundation. External pathogenic factors obstruct tendons, bones, and meridians, leading to stasis in the tendons and meridians. Liver and kidney deficiency

form the basis for onset, and stasis in tendons and meridians is the key pathological mechanism.²³

Recent research has focused on diverse therapeutic modalities for managing Knee Osteoarthritis (KOA), including acupuncture, electroacupuncture (EA), and moxibustion. Rigorous investigations such as randomized controlled trials (RCTs), systematic reviews, and meta-analyses have assessed their efficacy and safety, individually and comparatively. Positive effects have been observed in RCTs, particularly with electroacupuncture showing superior pain reduction and functional improvement compared to sham acupuncture. Manual acupuncture also demonstrated long-term benefits for KOA management.¹

Systematic reviews spanning 2006 to 2017 highlighted acupuncture's efficacy in KOA treatment, despite inherent limitations.²

Comparative studies between acupuncture and physiotherapy revealed similar improvements in pain and function, emphasizing acupuncture's potential as a viable alternative.³ Clinical guidelines have recommended acupuncture for adult KOA patients, emphasizing shared decision-making considering patient preferences.⁴

One study investigated thread embedding acupuncture (TEA), suggesting its safety and effectiveness in alleviating KOA pain, supporting the potential for future large-scale trials.⁵

Additionally, a systematic review and network meta-analysis of 49 trials examined the combination of acupuncture with massage, indicating promising outcomes for KOA patients.⁶

Another investigation focused on acupuncture paired with Chinese herbal medicine (CHM), with a meta-analysis of 33 RCTs demonstrating

significant improvements in pain levels, knee function, and overall response rates compared to controls.⁷

A randomized controlled pilot trial compared electroacupuncture (EA) and manual acupuncture (MA), hinting at EA's potentially stronger impact on pain and function, urging further exploration.⁸

Furthermore, a systematic review and meta-analysis evaluated acupuncture as an adjunctive therapy to oral medications for KOA. Results showed significant benefits in pain relief, knee function improvement, and overall response rates, though authors advised caution due to potential adverse effects like hematoma.⁹

Researchers conducted a systematic review and meta-analysis comprising 11 high-quality RCTs to evaluate the combination of acupuncture with active exercise training for KOA. Their findings indicated that this integrated approach surpassed others in improving total effectiveness, reducing pain, enhancing knee function, and increasing joint range of motion. ¹⁰

In another RCT comparing acupuncture, electroacupuncture (EA), and moxibustion for KOA, all three methods showed positive regulatory effects. Moxibustion stood out with superior outcomes, effectively reducing joint pain and stiffness while improving motor function.¹¹

A systematic review critically evaluated the methodological quality and evidence of systematic reviews and meta-analyses on acupuncture for KOA. Despite suggesting the effectiveness and safety of acupuncture, the study underscored methodological deficiencies in the included reviews, emphasizing the imperative for more rigorous research to conclusively establish acupuncture's efficacy and safety.¹²

In a meta-analysis comparing different treatments concluded that fire needle moxibustion showed superiority over acupuncture and other moxibustion methods, emphasizing its effectiveness in reducing pain and improving functional outcomes.¹³ Direct comparisons between moxibustion and

acupuncture highlighted moxibustion, especially fire needle moxibustion, as more effective in managing KOA, with notable reductions in pain and higher treatment success rates.¹⁴

A retrospective cohort study found that acupuncture therapy was associated with a significantly lower rate of knee surgery for osteoarthritis, suggesting its potential as a conservative treatment option and supporting its role in reducing the need for surgical interventions.¹⁵

In conclusion, the diverse array of studies examined in this review contributes significantly to our understanding of the role of acupuncture, electroacupuncture, and moxibustion in the management of Knee Osteoarthritis (KOA). The randomized controlled trial comparing these modalities demonstrated positive regulatory effects, with moxibustion exhibiting superior outcomes in reducing joint pain and stiffness while improving motor function.

The Western Ontario and McMaster Universities Arthritis Index (WOMAC) is a widely used and respected tool for assessing patients with knee osteoarthritis (OA).¹⁶ Developed by researchers from Western Ontario and McMaster Universities, WOMAC offers a robust framework for evaluating arthritis symptoms comprehensively.

WOMAC serves as a crucial reporting tool for healthcare professionals, researchers, and clinicians, offering a systematic approach to gather and analyze data related to arthritis symptoms.¹⁷ With its precision-crafted questions, WOMAC enables a comprehensive evaluation of pain, stiffness, and physical function, leading to insightful reports.¹⁸ These reports aid in precise diagnosis, monitoring arthritis progression, and tailoring effective treatment strategies.

The WOMAC consists of three subscales: Pain, Stiffness, and Physical Function.

Pain Subscale: Measures pain intensity during various activities using numerical or visual scales, providing a nuanced understanding of the diverse pain experiences across different contexts.¹⁹

Stiffness Subscale: It meticulously examines the degree of stiffness prevalent in the afflicted joint.²⁰ Evaluate stiffness severity and duration, including morning stiffness, to understand temporal and qualitative dimensions.

Physical Function Subscale: Assesses difficulty in performing daily tasks such as walking, climbing stairs, transitioning in and out of a chair, and other pertinent movements.²¹ It is offering insights into the impact of knee osteoarthritis on physical functionality.²²

Overall, WOMAC provides a comprehensive assessment of pain, stiffness, and functional limitations, aiding in understanding the impact of knee osteoarthritis on individuals' well-being.

Cases

Case 1

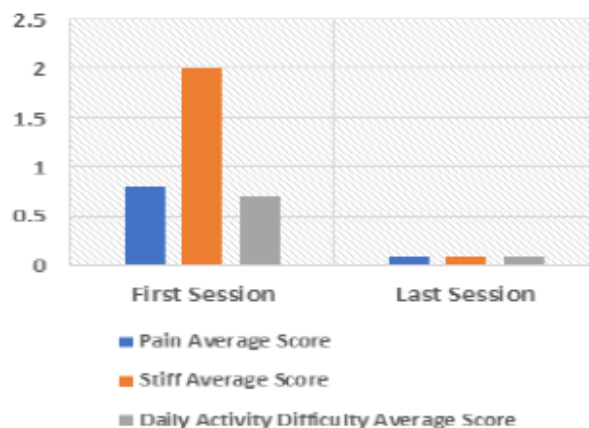
Clinical history

A 49-year-old female presented to clinic with chief complaint of chronic knee pain on both sides. She was diagnosed with osteoarthritis in left knee and bone spur in right knee one year ago. Patient was asked to fill out the WOMAC scale survey to compare the differences before and after treatments.

Acupuncture treatment

She has been received acupuncture treatment since July 2022, once every other or every 3 week for 3 months. From July 22nd until November 13th of 2022, patient received 7 treatment in total and reported knee pain nearly gone. WOMAC scale survey provided below (Figure1).

Figure 1
Case 1 WOMAC Results Summary



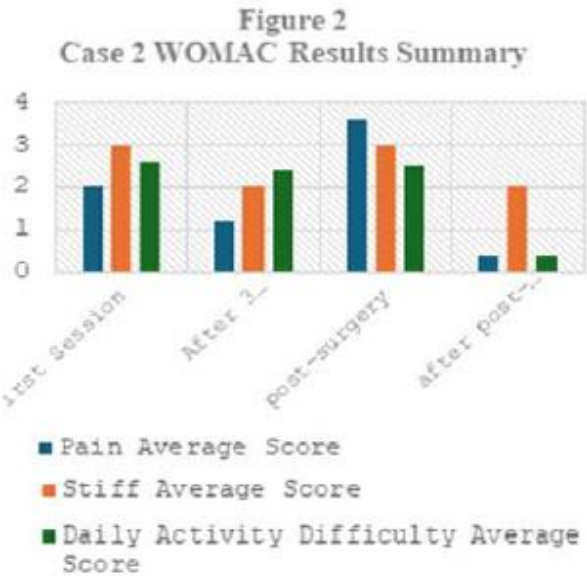
Treatment point: local points around both knees such as He Ding, ST 35/inner and outer Xi Yan, SP 9, GB 34 along with electrical stimulation on both knee, milli frequency and 10 hrz in intensity for 30 mins each time. Distal acupuncture points were also selected based on patient's condition at present, such as Ear Shen Men, Yin Tang, LI 4, LV 3, ST 36. The acupuncture needle used were 30-40 mm long and 0.22-0.25 mm in diameter, and they were inserted about 10-20mm deep perpendicular to the skin on hands, legs, and knees. Needles sized 15mm long and 13 mm in diameter were used mainly on facial and auricular points, perpendicularly inserted for about 2-5 mm. By the last treatment, patient reported knee pain almost gone and she was able to exercise with no pain.

Case 2

Clinical history

A 65-year-old female presented to clinic for acupuncture treatment with chief complaint of pain in both knees for many years. She said pain initially started in left knee and recently in both knees since September of 2022. Patient received weekly and bi-weekly acupuncture treatment for 3 months with slight improvement but not much. She had knee replacement surgery of right side on December 2022 and then that of left side on March 2023. On July 2023 patient returned to clinic due to pain in L knee after surgery especially after walking. Patient was asked to fill out the WOMAC scale

survey to compare the difference before surgery, after surgery, and after treatment (Figure2).



Acupuncture treatment

She received acupuncture every week or every other week between July 2023 and October 2023 for a total of 9 times. Local acupuncture points were selected on L knee, including GB34, SP9, ST35/inner& outer Xi Yan, SP 10 with electronical stimulation for 30 mins. Distal points were selected based on patient’s condition, as she experiencing high stress& anxiety, including Ear NADA protocol, LI4, LV3, PC6, H 7, LU9, and KD3. Patient returned to the clinic, on October 29th of 2023, reporting knee pain is gone on left side.

Discussion

Osteoarthritis (OA) of the knee is a prevalent chronic degenerative joint disease characterized by pain, stiffness, and functional impairment. While conventional treatments such as medication, physical therapy, and surgery are commonly used, integrative and alternative medicine like acupuncture with or without electrostimulation have gained attention for their potential efficacy in managing OA symptoms. Based on the outcomes of acupuncture treatment in the above two cases of knee OA, we discuss the outcomes and highlight the potential benefits and limitations of acupuncture in this section.

In Case 1, the patient received seven acupuncture session over a period of three months, resulting in nearly complete resolution of knee pain. Acupuncture points were selected based on Traditional Chinese Medicine principles, including local points around the knees and distal points tailored to the patient’s current condition. Electrical stimulation was applied to enhance treatment efficacy. The patient reported substantial improvement, with the ability to exercise without pain by the end of the treatment period.

Conversely, in Case 2, despite receiving weekly and bi-weekly acupuncture treatments for three months the patient didn’t have much improvement. However, after surgery the patient returned to the clinic with persistent left knee pain. She underwent a series of nine acupuncture sessions over a three-month period with remarkable results of complete resolution of knee pain in the left knee. These cases illustrate the potential variability in response to acupuncture treatment for knee OA. While some patients may experience significant pain relief and functional improvement, as seen in Case 1, others may have a more modest response, as observed in Case 2. Several factors may influence treatment outcomes, including the severity and duration of OA, individual patient characteristics, treatment duration and frequency, and adherence to treatment protocols.

The mechanisms underlying the therapeutic effects of acupuncture in knee OA are not fully understood but may involve modulation of pain perception, inflammation, and joint function through neurophysiological pathways.¹ Additionally, acupuncture may promote the release of endogenous opioids and neurotransmitters, leading to analgesic and anti-inflammatory effects.² These case reports have several limitations. Firstly, the absence of control groups hinder the ability to attribute observed improvements solely to acupuncture treatment. Additionally, the use of electrical stimulation in both cases makes it uncertain whether this adjunctive technique provides significant benefit more

than manual acupuncture. Although Tu, Jian-Feng et al addressed it in the research that electroacupuncture shows more immediate effect in relieving pain from KOA while manual acupuncture, in the long-term run, has more substantial effect.¹ Furthermore, the short follow-up duration and variations in patient demographics and disease severity limit the generalizability of the findings. Further research, including randomized controlled trials with standardized protocols, is needed to better understand the efficacy and optimal parameters of acupuncture in managing knee osteoarthritis pain, especially that between manual acupuncture and electroacupuncture.

Conclusion

In conclusion, the integration of acupuncture into the management of Knee Osteoarthritis (KOA) presents a multifaceted approach with promising potential. Through a comprehensive review of literature and analysis of clinical cases, it becomes evident that acupuncture holds significant promise in alleviating knee pain and improving functional outcomes in KOA patients. Biomedically, acupuncture may exert its effects through various mechanisms, including modulation of pain perception, reduction of inflammation, and enhancement of joint function.³ The application of acupuncture, whether through traditional needling techniques or adjunctive methods like electrical stimulation, offers a non-invasive and relatively safe therapeutic option for individuals with KOA.

However, it is essential to recognize the variability in treatment response among patients and the need for further research to elucidate the optimal parameters and underlying mechanisms of acupuncture's efficacy in KOA management. Rigorous randomized controlled trials with standardized protocols are warranted to validate the findings from clinical cases and provide robust evidence for the integration of acupuncture into mainstream orthopedic care.

Moreover, while acupuncture shows promise as a standalone or adjunctive therapy for KOA,

it should be considered within the context of a comprehensive treatment approach that may include pharmacological interventions, physical therapy, and lifestyle modifications. Embracing a multidisciplinary framework that incorporates both traditional and biomedical perspectives can facilitate personalized and holistic care for KOA patients, ultimately improving their quality of life and functional outcomes.

In summary, acupuncture represents a valuable therapeutic modality in the armamentarium against KOA, offering a complementary approach that addresses the complex interplay of biological and mechanical factors underlying this degenerative joint disorder. By further exploring acupuncture's efficacy, refining treatment protocols, and integrating it into evidence-based clinical practice, we can optimize the management of KOA and enhance patient outcomes in the pursuit of musculoskeletal health and well-being.

Ethics statement

The patients/participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

Cases were reported by the author of this article.

Conflict of interest

The author declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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薛式医学太极科学机理概述

薛扶民

1. 太极拳研究的初始阶段

2011 年我先后访问亚特兰大三次，和 Emory 与 Georgia State 联系太极拳研究的事宜，最后确定由 Georgia State University 的王永泰教授给我出具 J-1 手续。我于 2012 年正式开始在 GSU 的太极拳研究工作，我承担 GSU 的一门太极拳公共选修课，同时思考太极拳的研究。最开始时，研究是非常困难的，主要是无从下手，不知道从哪里开始下手，测试什么数据，需要测试的数据与太极拳有什么关系，什么数据反映太极拳的运动生理特征等。在人类的发展历史中，很多的突破往往具有偶然性。一开始，我是希望先从临床研究入手，研究太极拳对慢性病的作用，不巧的是 GSU 是护理学院，没有医学院。按照美国大学的设置，只有医学院才有临床医院，护理学院是没有临床医院的。由于没有进行临床研究的机会，我只能往机理方向思考。经过一学期的焦虑等待后，我决定自己主动做一些

尝试。由于 2011 年初曾和一位教授交流中，他提到太极拳是中等运动强度的运动，心率也会适度提供、不可能心率没有变化，与我的主观认知不同（我们打太极拳的主观感受是心不跳、气不喘，心情很平静，主观以为太极拳运动心率没有变化）。于是就尝试做了太极拳的心率测试，结果一测试吓了一跳，居然高过 170。

The Initial Stage of Tai Chi Research

In 2011, I visited Atlanta three times to discuss Tai Chi research with Emory University and Georgia State University (GSU). Finally, it was decided that Professor Yongtai Wang from GSU would issue me the J-1 visa documents. In 2012, I officially began my Tai Chi research work at GSU. I was responsible for a Tai Chi public elective course at GSU while contemplating Tai Chi research. At the

beginning, the research was very difficult, mainly because I didn't know where to start, what data to test, how the data related to Tai Chi, and what data reflected the physiological characteristics of Tai Chi.

Throughout human history, many breakthroughs have been accidental. Initially, I wanted to start clinical research to study the effects of Tai Chi on chronic diseases. Unfortunately, GSU has a nursing school but not a medical school. According to the setup of American universities, only medical schools have clinical hospitals, while nursing schools do not. Since there was no opportunity for clinical research, I had to think in the direction of mechanisms. After a semester of anxious waiting, I decided to take the initiative to try something on my own.

In early 2011, a professor mentioned that Tai Chi is a moderate-intensity exercise, and the heart rate would increase moderately, which contradicted my subjective perception (our subjective feeling when practicing Tai Chi is that the heart does not race, we do not feel breathless, and we feel very calm, so I subjectively thought that Tai Chi exercise does not change the heart rate). Therefore, I tried to test the heart rate during Tai Chi, and the results were surprising—it was over 170.

2. 第一个发现，超高心率

所以，我研究太极拳机理第一个发现的现象是太极拳心率的异常。太极拳这么温和的运动，心率高过 170，显然与太极拳的运动强度不符

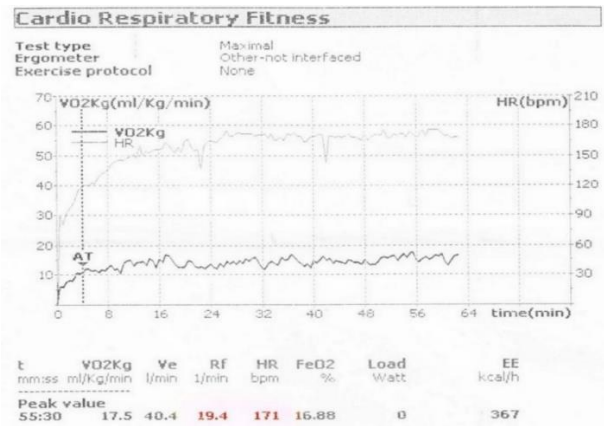
（吸氧量代表运动强度）。太极拳的运动强度很温和，吸氧量峰值是静态的 4-5 倍（普通人的最大吸氧量能达到静态的 25-30 倍，优秀职业运动员能够达到静态的 35-40 倍，甚至更高）。那么为什么太极拳的心率会这么高呢？再经过数月的困惑与探索思考后，我终于意识到心率与吸氧量不是直接关系，心率与吸氧量之间还有另一个因素就是每搏输出量（Stroke Volume, SV）。我在回美国之前，于 2011 年 2 月在上海时做过一个测试，有 SV 的数值。打开老的电脑一看，果然如此，心率超高就是因为 SV 的因素。这样就揭开了太极拳的第一层神秘面纱，太极拳具有高心率、低收缩力机制。

The First Discovery: Extremely High Heart Rate

Thus, the first phenomenon I discovered in my research on the mechanisms of Tai Chi was the abnormal heart rate during Tai Chi practice. Tai Chi is such a gentle exercise, yet the heart rate exceeded 170, which clearly does not match the exercise intensity of Tai Chi (oxygen consumption represents exercise intensity). The intensity of Tai Chi is very mild, with the peak oxygen consumption being 4-5 times the resting level (the maximum oxygen consumption of an average person can reach 25-30 times the resting level, while elite professional athletes can reach 35-40 times the resting level or even higher). So why is the heart rate so high during Tai Chi?

After several months of confusion and exploration, I finally realized that heart rate and oxygen consumption are not directly related. There is another factor between heart rate and oxygen consumption, which is stroke volume

(SV). Before returning to the U.S., I did a test in Shanghai in February 2011 that included SV values. When I checked my old computer, it turned out to be true—the high heart rate was due to the SV factor. This unveiled the first layer of mystery surrounding Tai Chi: it has a mechanism of high heart rate but low stroke force.



3. 太极拳超高心率背后的机制

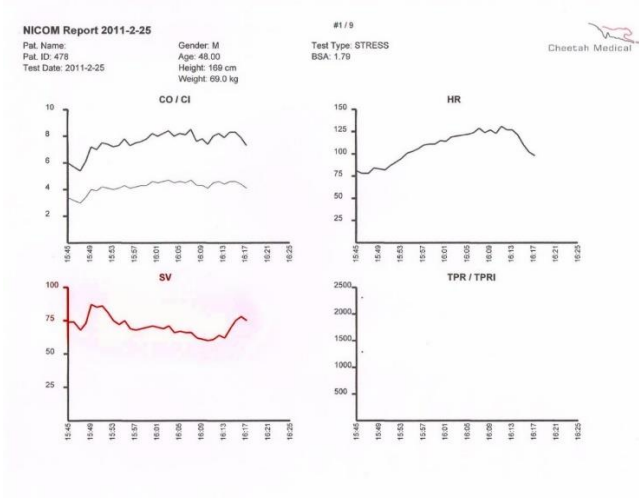
在常规运动中，心排量（Cardiac Output, CO）、心率（Heart Rate, HR）和 SV 均增加，三条曲线均向上，其中 CO 的斜率最大， $CO=SV \times HR$, CO 由 HR 与 SV 共同贡献，所以在同等 CO 情况下，HR 没有那么高。HR 与 SV 的联动、共同升高是由交感神经控制的，也就是说，常规运动激活了交感神经后，交感神经再调控全身的相关脏器，对于心脏就是心率 HR 提高、心脏收缩力 SV 增加。而太极拳运动中，由于交感神经没有被激活，HR 与 SV 解联了，SV 没有随 HR 同步提高，CO 由 HR 单独贡献，所以在同等 CO 情况下，HR 要远远高于常规运动。如果 SV 略有下降，HR 就更高，HR 的斜率将高于 CO；SV 如果保持和静态一样的水

平，HR 就与 CO 的斜率一致 CO 与 HR 的增幅相当。

Mechanism Behind the Extremely High Heart Rate in Tai Chi

In conventional exercise, cardiac output (CO), heart rate (HR), and stroke volume (SV) all increase, with all three curves trending upward. The slope of CO is the steepest, as $CO = SV \times HR$. CO is contributed by both HR and SV, so under the same CO, HR is not as high. The synchronized increase of HR and SV is controlled by the sympathetic nervous system. This means that when conventional exercise activates the sympathetic nervous system, it then regulates the related organs throughout the body. For the heart, this results in an increase in both HR and SV.

However, during Tai Chi practice, the sympathetic nervous system is not activated, leading to a dissociation between HR and SV. SV does not increase in sync with HR, and CO is solely contributed by HR. Therefore, under the same CO, HR is much higher than in conventional exercise. If SV decreases slightly, HR becomes even higher, and the slope of HR will exceed that of CO. If SV remains at the same level as at rest, HR will match the slope of CO, and the increase in CO will be equivalent to the increase in HR.



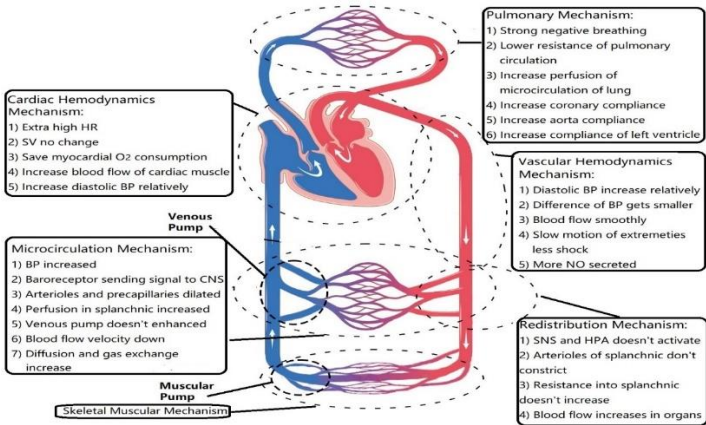
- (3) Tai Chi heart rate driving mechanism
- (4) Tai Chi respiratory mechanism
- (5) Tai Chi respiratory regulation mechanism
- (6) Tai Chi vascular hemodynamic mechanism
- (7) Blood flow redistribution mechanism
- (8) Tai Chi microcirculation mechanism
- (9) Tai Chi muscle pump mechanism
- (10) Tai Chi venous pump mechanism
- (11) Tai Chi skeletal muscle neural signaling mechanism

4. 截止到 2023 年初，现在已经发现的特殊生理机制有如下 11 项：

- (1) 心脏血流动力学机制；
- (2) 血压机制；
- (3) 太极拳心率驱动机制；
- (4) 太极拳呼吸机制；
- (5) 太极拳呼吸调控机制；
- (6) 太极拳血管血流动力学机制；
- (7) 血流再分配机制；
- (8) 太极拳微循环机制；
- (9) 太极拳肌肉泵机制；
- (10) 太极拳静脉泵机制；
- (11) 太极拳骨骼肌神经信号传导机制。

As of Early 2023, the Discovered Special Physiological Mechanisms Include the Following 11 Items:

- (1) Cardiac hemodynamic mechanism
- (2) Blood pressure mechanism



这些机制基本形成了一个闭环系统，能够解释太极拳为什么不同于常规运动，为什么对健康、对慢性病有医学价值。在我目前的研究中还有一项机制已经意识到肯定存在，但是还没有搞清楚，这个机制是大脑神经信号通过丘脑、下丘脑、脑干、延髓到骨骼肌的传导和对副交感的影响。这个机制是传出神经信号，支配太极拳的运动方式。骨骼肌神经信号传导机制是传入神经信号，决定交感神经的状态。除了这些生理机制，太极拳对于某些疾病的机制也在逐步发现中，比如太极拳对于肝腹水的机制就是今年中发现的，这个机制的发现距离肝腹水案例经历了 10 年之久。一些分子层面的机制也在发现和探索中，这些机制最主要的太极拳对于癌症的机制，通过 HIF/PHDs 和氧把太极拳与癌症联系起来了。

以上的 11 个机制都是生理层级的，大体可以分为三组：

- (1) 心肺机制（包括了心脏血流动力学、心率驱动、血压、呼吸与呼吸调控）；
- (2) 骨骼肌机制（包括骨骼肌神经信号传导、肌肉泵）；
- (3) 效应机制（包括血流再分配、微循环

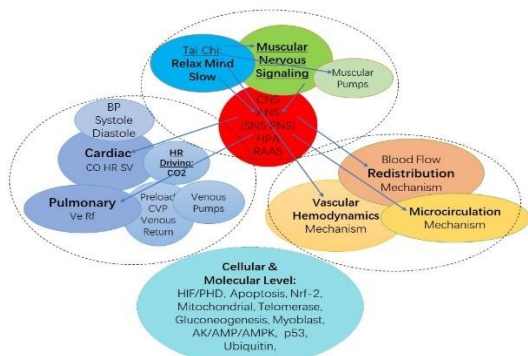
和静脉泵）。

These mechanisms essentially form a closed-loop system that can explain why Tai Chi is different from conventional exercises and why it has medical value for health and chronic diseases. In my current research, there is one more mechanism that I am aware of but have not yet fully understood. This mechanism involves the transmission of neural signals from the brain through the thalamus, hypothalamus, brainstem, and medulla to the skeletal muscles and its impact on the parasympathetic nervous system. This mechanism involves efferent neural signals that govern the movement patterns of Tai Chi. The skeletal muscle neural signaling mechanism involves afferent neural signals that determine the state of the sympathetic nervous system.

In addition to these physiological mechanisms, the mechanisms of Tai Chi for certain diseases are also gradually being discovered. For example, the mechanism of Tai Chi for ascites was discovered this year, 10 years after encountering an ascites case. Some molecular-level mechanisms are also being discovered and explored, with the most significant being the mechanism of Tai Chi for cancer. This links Tai Chi to cancer through the HIF/PHDs and oxygen pathways.

The above 11 mechanisms are all at the physiological level and can be broadly divided into three groups:

- (1) Cardiopulmonary mechanisms (including cardiac hemodynamics, heart rate driving, blood pressure, respiration, and respiratory regulation)
- (2) Skeletal muscle mechanisms (including skeletal muscle neural signaling and muscle pump)
- (3) Effector mechanisms (including blood flow redistribution, microcirculation, and venous pump)



太极拳对于健康的效应，总统来讲就是为内脏提高氧供，而常规运动是减少内脏的氧供的。

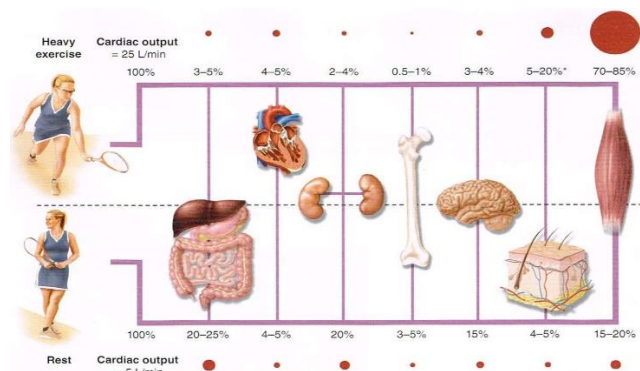
The Fundamental Difference Between Tai Chi and Conventional Exercise

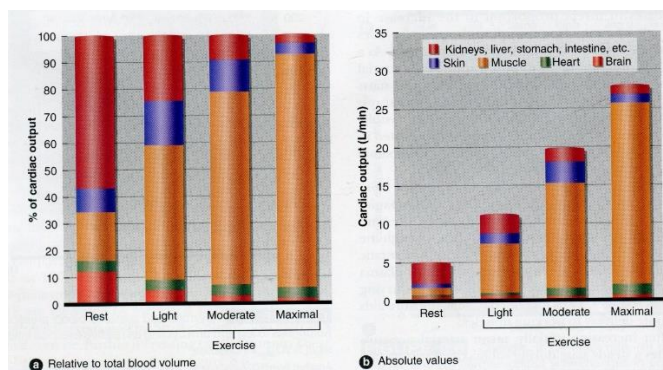
The contraction of skeletal muscles is the initial part of the exercise mechanism. Through central nervous system integration, sympathetic signals are generated, and the heart, lungs, and blood flow redistribution are the effects of sympathetic activation. However, apart from being a sympathetic effect, the heart and lungs also have independent mechanisms, such as the heart rate driving mechanism. In Tai Chi, since the sympathetic nervous system is not activated, the heart rate is not governed by sympathetic control. So, what factors or mechanisms control the heart rate in Tai Chi? This is a question and discovery independent of the sympathetic system.

The overall effect of Tai Chi on health is to increase oxygen supply to the internal organs, whereas conventional exercise typically reduces the oxygen supply to the internal organs.

5. 太极拳运动与常规运动的本质区别

骨骼肌收缩是运动机制的起始部分，通过中枢神经整合出交感信号，心肺与血流再分配是交感效应机制，但是心肺除了作为交感效应外，本身还有独立的机制，比如心率驱动机制。太极拳运动中，由于交感没有被激活，心率不是由交感支配的，那么是什么因素或机制支配了太极拳的心率？这是一个独立于交感之外的问题与发现。





6. 各机制详解

- (1) 血压机制。心排量 CO 是血压的主要动力，CO 又由 HR 和 SV 构成，这样 HR 和 SV 的不同表现，就决定了血压有不同的特征。一般来说，以 SV 提高为主贡献的血压，提高收缩压较多，压差较大；以 HR 提高为主贡献的血压，舒张压升高较多，压差较小。当然所有这些都是相对而言的，人体是一个有机的整体仪器，一切的生理变化都在一定的范围之内。太极拳血压机制的效应，主要是对心肌灌注的影响。人体除了心脏以外的其他器官，血流灌注在心脏收缩期都优于心脏舒张期，唯独心脏是舒张期优于收缩期。这是由心脏的解剖结构决定的，心脏冠状动脉的入口在动脉瓣后的动脉窦。心脏收缩时，动脉瓣打开，部分挡住了动脉窦的冠状动脉入口；只有在舒张期，动脉瓣闭合，动脉窦内的冠脉入口才完全裸露出来。所以，心脏心肌灌注在舒张期占总灌注的 2/3，甚至更多。舒张压的提高等于提高心脏冠脉的灌注压，理所当然提高灌注量。舒张压相对提高、压差相对减少，血流的平顺度就提高，血流对于血管的冲击力降低，这是血压机制对血管血流动力学的影响。

(1) Blood Pressure Mechanism: Cardiac output (CO) is the primary driver of blood pressure, and CO is composed of heart rate (HR) and stroke volume (SV). The different manifestations of HR and SV determine the different characteristics of blood pressure. Blood pressure primarily contributed by an increase in SV results in a higher systolic pressure and a larger pressure difference. On the other hand, blood pressure primarily contributed by an increase in HR results in a higher diastolic pressure and a smaller pressure difference. Of course, all of these are relative, as the human body is an organic whole, and all physiological changes occur within a certain range.

The effect of Tai Chi's blood pressure mechanism mainly impacts myocardial perfusion. For organs other than the heart, blood perfusion is better during the cardiac contraction phase than during the relaxation phase. However, the heart itself experiences better perfusion during the relaxation phase than during the contraction phase. This is determined by the anatomical structure of the heart. The entrance to the coronary arteries of the heart is in the aortic sinuses located behind the aortic valve. When the heart contracts, the aortic valve opens, partially blocking the entrance to the coronary arteries. Only during the relaxation phase, when the aortic valve closes, are the coronary artery entrances fully exposed. Therefore, myocardial perfusion occurs primarily during the relaxation phase, accounting for 2/3 or more of the total perfusion.

Detailed Explanation of Each Mechanism:

An increase in diastolic pressure effectively raises the perfusion pressure of the coronary arteries, thereby increasing the perfusion volume. When diastolic pressure increases relatively and the pressure difference decreases, the smoothness of blood flow improves, reducing the impact of blood flow on the blood vessels. This is how the blood pressure mechanism affects vascular hemodynamics.

(2) 心率驱动机制。常规运动是由交感与肾上腺素、去甲肾上腺素驱动心率与心脏收缩力的，但是在太极拳运动中如果交感神经没有被激活，是什么因素或机制驱动心率？目前我的认知是这样的，任何运动，只要肌肉收缩做功，就会消耗氧、产生二氧化碳，太极拳也是如此。太极拳运动吸氧量峰值是静态的 4-5 倍，合理推测静脉血二氧化碳的浓度峰值也会提高到 4-5 倍（当然可能有供能比的变化，这里忽略）。有没有一种可能，右心房窦房结的附近或什么其他位置有二氧化碳感应器，把二氧化碳升高的信号直接传递给窦房结或者是脑干、延髓的心脏中心，再由心脏中心把信号传递回窦房结驱动心率？这是现代运动生理学从来没有提到过的问题。也许是由于交感神经的统合作用掩盖了对于其他心率驱动机制的探索，现在我们在太极拳运动中发现了这个异常的生理现象，值得对心率驱动机制做新的探索。

(2) Heart Rate Driving Mechanism: In conventional exercise, heart rate and cardiac contractility are driven by the sympathetic nervous system and by adrenaline and noradrenaline. However, in Tai Chi, if the sympathetic nervous system is not activated, what factors or mechanisms drive the heart rate? My current understanding is as follows: Any exercise, as long as it involves muscle

contraction, will consume oxygen and produce carbon dioxide, and Tai Chi is no exception. The peak oxygen consumption during Tai Chi is 4-5 times that of a resting state, so it is reasonable to infer that the peak concentration of carbon dioxide in venous blood will also increase to 4-5 times (though changes in the energy ratio are possible, this is disregarded here).

Is it possible that there are carbon dioxide sensors near the sinoatrial node in the right atrium or in some other location, which directly transmit the elevated carbon dioxide signal to the sinoatrial node or to the cardiac center in the brainstem and medulla, and then the cardiac center sends the signal back to the sinoatrial node to drive the heart rate? This is an issue that modern exercise physiology has never addressed. It might be that the integrated function of the sympathetic nervous system has obscured the exploration of other heart rate driving mechanisms. Now, in the context of Tai Chi practice, we have discovered this abnormal physiological phenomenon, which warrants new explorations into the heart rate driving mechanism.

(3) 呼吸机制。太极拳运动，吸氧量达到静态的 4-5 倍，而呼吸频率的极值不超过 20 次，仍然是在静态的范围内（成人静态的呼吸频率是 16-20 次/分钟），相反潮气量达到静态的 4-5 倍。也就是说，太极拳运动是通过提高增加呼吸的幅度来实现吸氧量增加的，膈肌下移的幅度非常大。常规运动，呼吸频率与呼吸幅度都有增加，我们能感受到的更多是呼吸频率的增加，气喘吁吁。太极拳呼吸幅度增加而呼吸频率不增加的直接效应，就是氧的摄取效率提高，这表现在死腔率降

低上（应该说还包括氧由肺泡向血液弥散的时间增加）。也可以说是太极拳的有效呼吸率高于常规运动。呼吸的调节机制，是由交感、副交感神经双重调节的，静态主要受副交感的控制。这个方面的研究不多，可以确定的是交感没有激活，而副交感的张力有提高。我在将意识转向体内时，呼吸频率即时可得到抑制，这个不需要多少训练，多做几次、注意力集中就能体现出来。这个机制也是静功的主要机制之一。肺动脉血中二氧化碳的浓度是不是对呼吸幅度的调节起作用，值得关注与探讨。

(3) Respiratory Mechanism: During Tai Chi practice, oxygen consumption reaches 4-5 times that of a resting state, while the peak respiratory rate does not exceed 20 breaths per minute, remaining within the range of a resting adult (16-20 breaths per minute). Conversely, tidal volume increases to 4-5 times the resting level. This means that Tai Chi increases oxygen consumption by significantly enhancing the depth of breathing, with a large downward movement of the diaphragm.

In conventional exercise, both respiratory rate and depth increase, and we primarily notice the increase in respiratory rate, often feeling breathless. The direct effect of increased breathing depth without an increase in respiratory rate during Tai Chi is an improvement in oxygen uptake efficiency. This is reflected in a reduced dead space ventilation rate (and includes increased time for oxygen to diffuse from the alveoli into the blood). It can be said that the effective breathing rate in Tai Chi is higher than in conventional exercise.

The regulation of breathing is controlled by both the sympathetic and parasympathetic nervous systems, with the parasympathetic system primarily controlling resting states. There is limited research in this area, but it is certain that the sympathetic nervous system is not activated, while the tension of the parasympathetic system increases. When I focus my attention inward, my respiratory rate can be immediately suppressed. This does not require much training and can be demonstrated with a few attempts and focused attention. This mechanism is also one of the main mechanisms of static Qigong.

The role of carbon dioxide concentration in pulmonary artery blood in regulating breathing depth is worth attention and exploration.

(4) 血流再分配机制。常规运动减少内脏血流，这是由交感神经被激活造成的。交感神经激活，导致小动脉收缩，减少了内脏血流，大量的血流被引导到骨骼肌，例如肝肠的血流在安静状态占 20-25%，肾脏占 20%；而在高强度运动状态，肝肠的血流减少到 3-5%，肾脏的血流减少到 2-4%（见前图）。我们知道大部分的慢性病都和缺氧有关而且多发生在内脏，减少内脏的血流供应显然从生理学上说对健康是不利。影响血流再分配的机制包括交感神经、下丘脑-肾上腺轴和肾素-血管紧张素-醛固酮（RAAS）和 NO/ET，四大系统，交感反应最快，肾上腺反应慢于交感神经。RAAS 又有循环与局部两类，RAAS 被激活是由肾脏血流减少引起的，NO/ET 由血管血流状态决定。他们共同的效应就是收缩血管，减少内脏的血流供应。太极拳由于交感神经系统没有被激活，不会诱发肾上腺轴和 RAAS 激活，进而没有造成血管收缩，因

而不会减少内脏的血流供应。随着 CO 的增加，血压的提高（灌注压），内脏的血流供应也相应增加，这是太极拳对于内脏慢性病改善与康复的物质基础和生理基础，在这个基础上才有深层的细胞、分子机制产生作用，如氧如何激活癌细胞中的凋亡机制等待。

(4) Blood Flow Redistribution Mechanism:
Conventional exercise reduces blood flow to the internal organs due to the activation of the sympathetic nervous system. The activation of the sympathetic nervous system causes arterioles to constrict, reducing blood flow to the internal organs and redirecting a significant amount of blood to the skeletal muscles. For example, in a resting state, the liver and intestines receive 20-25% of the blood flow, and the kidneys receive 20%. During intense exercise, blood flow to the liver and intestines decreases to 3-5%, and to the kidneys to 2-4%.

We know that most chronic diseases are associated with hypoxia and often occur in the internal organs. Reducing blood flow to the internal organs is physiologically detrimental to health. The mechanisms affecting blood flow redistribution include the sympathetic nervous system, the hypothalamic-pituitary-adrenal (HPA) axis, the renin-angiotensin-aldosterone system (RAAS), and the nitric oxide/endothelin (NO/ET) system. The sympathetic response is the fastest, while the adrenal response is slower than the sympathetic nervous system. RAAS has both systemic and local components and is activated by reduced renal blood flow. NO/ET is regulated by vascular blood flow conditions. Their combined effect is vasoconstriction, reducing blood flow to the internal organs.

In Tai Chi, because the sympathetic nervous system is not activated, it does not trigger the HPA axis and RAAS activation, thus avoiding vasoconstriction and the subsequent reduction in blood flow to the internal organs. With the increase in cardiac output (CO) and the resulting increase in blood pressure (perfusion pressure), the blood supply to the internal organs also increases accordingly. This provides the material and physiological foundation for Tai Chi's improvement and rehabilitation effects on chronic diseases of the internal organs. On this basis, deeper cellular and molecular mechanisms, such as how oxygen activates apoptosis mechanisms in cancer cells, can take effect.

(5) 微循环机制。太极拳运动中，由于小动脉血管未收缩，进入微循环的血流量必然增加，这可以从血流再分配机制得出推论。在静脉端，由于肌肉泵机制和静脉泵的关系，静脉的泵作用减弱（SV 没有升高是由前负荷没有增加，前负荷没有增加是由于回心血量没有增加，而回心血量没有增加是因为静脉泵作用减弱）。同时，由于太极拳强调放松，肌肉不能用力，步伐移动、收腿时不能用脚蹬地，减少了肌肉泵的作用。血液在微循环中的血量是动脉端与静脉端共同作用的结果，动脉端灌注压与微循环血量正相关；静脉端对微循环是抽吸作用，负压差抽吸力与微循环血量是负相关关系。由此是否能够推论，太极拳运动中微循环的开放度提高，血量在微循环中的比例提高、流速弱缓，提高了氧的弥散与二氧化碳的转运（内呼吸作用与气体交换），值得研究与探讨。微循环机制是二次效应，血流再分配是一次效应，血流再分配只要通过微循环机制才能起作用。

只有一次血流再分配机制，而没有二次微循环机制，太极拳对健康的作用无从谈起。

discussion of the health benefits of Tai Chi is impossible.

(5) Microcirculation Mechanism. In Tai Chi practice, due to the lack of constriction in small arterial blood vessels, the blood flow entering the microcirculation must increase. This inference can be drawn from the blood flow redistribution mechanism. At the venous end, the pumping action of veins is weakened due to the relationship between the muscle pump mechanism and venous pump (SV does not increase because there is no increase in preload, no increase in preload is due to no increase in venous return, and no increase in venous return is because of weakened venous pump action). Additionally, since Tai Chi emphasizes relaxation and prohibits exerting force in muscles, such as not pushing off the ground during steps and leg closures, the action of the muscle pump is reduced. The blood volume in microcirculation is the result of the combined action of the arterial and venous ends, where arterial perfusion pressure is positively correlated with microcirculation blood volume, while the venous end acts as a suction force on microcirculation, showing a negative correlation with blood volume. Can it be inferred from this that the openness of microcirculation increases during Tai Chi practice, the proportion of blood volume in microcirculation increases, and the flow rate slows, thus enhancing oxygen diffusion and carbon dioxide transport (internal respiratory function and gas exchange), which is worth studying and exploring. The microcirculation mechanism is a secondary effect, while blood flow redistribution is a primary effect; blood flow redistribution can only be effective through the microcirculation mechanism. Without the secondary microcirculation mechanism, the

(6) 血管血流动力学机制。太极拳运动动作舒缓、慢匀，节奏慢、无震动。这样的运动产生的血流较平稳、舒缓，对血管壁没有剧烈的撞击，多平流、少涡流、紊流。根据血管血流动力学的研究，平流对血管壁的剪应力和缓，能够刺激血管内皮细胞分泌较多的一氧化氮。一氧化氮是一种小分子，能够穿透细胞、向血管中层扩散，对血管损伤有修复作用，特别是对血脂沉淀、血管硬化有正向作用。一氧化氮获得了 1998 年的诺贝尔医学奖。一氧化氮只能由人体自然产生，在自然界中一氧化氮对人体是有毒的。在人体中一氧化氮的产生有三个来源，血管内皮、神经递质和诱导产生，其中最主要的途径是血管内皮。血管内皮在平顺血流剪应力的作用下正相关分泌一氧化氮。但是，如果血管中的血流如果是较多的湍流、紊流，则产生更多的是血管内皮素。血管内皮素是迄今为止已知最强的缩血管物质。这也是常规运动导致内脏血流减少的机制之一。太极拳可能通过一氧化氮修复与软化血管，对心脑血管和高血压等慢性病有非常重要的正向作用。

(6) Vascular Hemodynamics Mechanism. Tai Chi movements are gentle, slow, and rhythmic, without any abrupt shaking. Such movements result in a relatively stable and gentle blood flow, causing minimal impact on the blood vessel walls and promoting laminar flow with fewer eddies and turbulence. According to studies in vascular hemodynamics, laminar flow exerts gentle shear stress on blood vessel walls, which

can stimulate the endothelial cells to secrete more nitric oxide (NO). Nitric oxide is a small molecule that can penetrate cells and diffuse into the middle layer of blood vessels, playing a reparative role in blood vessel damage, especially in lipid deposition and atherosclerosis, for which it received the Nobel Prize in Medicine in 1998. Nitric oxide can only be naturally produced by the human body and is toxic in nature outside the body. There are three sources of nitric oxide in the body: endothelium, neurotransmitters, and inducible sources, with the endothelium being the primary pathway. Endothelial cells secrete nitric oxide in response to smooth shear stress from blood flow. However, if the blood flow in the vessels is turbulent or turbulent, it leads to the production of more endothelin, which is the strongest vasoconstrictor known to date. This is one of the mechanisms by which regular exercise leads to reduced visceral blood flow. Tai Chi may play a crucial positive role in cardiovascular and chronic conditions such as hypertension by promoting the repair and softening of blood vessels through nitric oxide.

- (7) 肌肉泵机制。我们知道静脉回流有两个动力来源，一个是中心静脉腔的负压，起抽吸作用，形成负压梯度将外周静脉血流引导回心脏。第二个动力来源就是肌肉泵。在我们日常的生活中，日常动作就会在深层肌肉中产生一定的收缩力，这个收缩力称为静收缩力（或静张力），因为我们感受不到。这个收缩力对深层静脉产生挤压，这是静脉回流的正向泵力，静脉血在肌肉泵的作用下协同静脉窦的作用形成单向回流。运动的动作越剧烈，肌肉泵的作用越强。相反，太极拳的要领是“用意不用力”，

要求肌肉放松，不能有有意识的肌肉收缩。下肢的动作，不能提膝、不能蹬地，加上有意识的放松，大大抑制了肌肉泵的作用，使得血液在静脉与微循环中的比例提高，回心血量降低，前负荷随之降低，最终SV没有升高。

(7) The muscle pump mechanism. We know that venous return has two sources of force. One is the negative pressure in the central venous lumen, which acts as a suction force, creating a negative pressure gradient to guide peripheral venous blood flow back to the heart. The second source of force is the muscle pump. In our daily lives, everyday movements generate a certain amount of contraction force in deep muscles, known as static contraction force (or static tension), because we cannot feel it. This contraction force squeezes deep veins, providing the positive pumping force for venous return, where venous blood, under the action of the muscle pump, along with the role of venous sinuses, forms unidirectional flow back to the heart. The more intense the movement, the stronger the muscle pump's effect. In contrast, the essence of Tai Chi is "intention without force," emphasizing muscle relaxation and avoiding conscious muscle contractions. Lower limb movements, such as lifting the knee or pushing off the ground, are not allowed, and combined with conscious relaxation, significantly suppress the muscle pump's effect. This increases the proportion of blood in veins and microcirculation, reduces venous return to the heart, decreases preload, and ultimately does not increase stroke volume (SV).

- (8) 静脉泵机制。静脉泵机制与肌肉泵机制有部分重叠，但又不完全相同。肌肉泵侧重肌肉收缩泵力，是动的状态，由运动动作直接产生。而静脉泵更侧重静的状态，受神经-体液因素影响更多。我们知道，静脉血管壁中也是有平滑肌层的，尽管静脉血管的平滑肌层对血管的作用没有动脉和小动脉那样显著，但是仍然起着不可忽视的作用。推测，静脉平滑肌层受体液因素的影响更大，也就是肾上腺素、去甲肾上腺素的影响和作用。这些因素影响静脉血管壁的张力，如激素水平低，则静脉舒张度大、静脉储血量，回心血量就少。相反，如激素水平高，则静脉壁张力大、静脉储血量相对降低，回心血量就多。静脉泵对静脉储血比例的作用较大，而肌肉泵更多影响静脉回心血流的动力。太极拳之所以不同于常规运动，根本区别就在于特殊的运动方式没有激活交感-体液系统，最终表现出高心率、低收缩力现象。这一逻辑链是这样的：高心率-低收缩力-低前负荷-低中心静脉压-低回心血量-高静脉、微循环血量比-低静脉张力-低肌肉泵收缩力-放松、缓慢的太极运动。

(8) The Venous Pump Mechanism.

The venous pump mechanism overlaps partially with the muscle pump mechanism but is not entirely identical. The muscle pump emphasizes muscle contraction pumping force, which is dynamic and directly generated by movement actions. On the other hand, the venous pump focuses more on a static state and is influenced by neurohumoral factors. We know that there is a smooth muscle layer in the venous vessel wall. Although the role of the smooth muscle layer in venous vessels is not as significant as in arteries and small

arteries, it still plays a crucial role. It is speculated that the smooth muscle layer in veins is more influenced by humoral factors, such as adrenaline and noradrenaline. These factors affect the tension of the venous vessel wall. For instance, with low hormone levels, venous dilation is greater, venous blood storage capacity increases, and venous return to the heart decreases. Conversely, high hormone levels lead to increased venous wall tension, relatively reduced venous blood storage capacity, and increased venous return to the heart. The venous pump has a significant impact on the proportion of venous blood storage, while the muscle pump predominantly affects the dynamics of venous return to the heart. The fundamental difference between Tai Chi and conventional exercises lies in the unique movement style that does not activate the sympathetic-humoral system, resulting in a high heart rate and low contractile force phenomenon. The logical chain is as follows: high heart rate - low contractile force - low preload - low central venous pressure - low venous return to the heart - high venous and microcirculation blood volume ratio - low venous tension - low muscle pump contraction force - relaxed, slow Tai Chi movements.

- (9) 骨骼肌神经信号传导机制。这个机制解释太极拳运动为什么没有激活交感-体液系统，由太极拳特殊的运动放松直接决定。我们日常的生活活动，交感、副交感处于相互平衡状态，相对来说平静状态受副交感的影响更大。当人体进行劳作或运动，肌肉收缩的力量和频率超过一定阈值时，就激活交感神经系统，进而激活体液系统

（下丘脑-肾上腺轴和 RAAS）。也就是说，交感-体液系统是否被激活是由骨骼肌收缩的力量和频率两个参数决定的，力量大、频率高，超过一定阈值，就激活交感-体液系统；反之，肌肉收缩力量小、频率低，不超过激活阈值，交感-体液系统就不被激活。太极拳运动是源自我们古老哲学理念和传统文化核心的文化瑰宝，与先秦吐纳导引、汉代五禽戏、宋代八段锦、易筋经、洗髓经、气功等一脉相承，只是各自的表象特征有所差别。从运动学的角度看，本质是相同的，那就是他们都是“静”的运动，是动中有静、静中含动的运动。太极拳运动中，动作舒缓、肌肉放松，肌肉的收缩力、收缩频率、动作的移动速度都要慢于日常生活的动作，因而不会激活交感神经系统和体液系统。在运动生理学中，就是太极拳运动中的肌肉收缩力、频率和移动速度所产生的分级电位低于动作电位的阈值，没有形成动作电位。尽管在肌肉中有分级电位产生，却没有产生由骨骼肌向神经中枢传递的动作电位神经脉冲信号，也或许是传入神经脉冲信号逐级递减，没有或不足形成激活交感神经的动作电位信号。而且，太极拳运动中对于意识的要求还会提高副交感的张力，如呼吸更加的缓慢、深沉。

（9）The skeletal muscle neural signal transmission mechanism explains why Tai Chi does not activate the sympathetic-humoral system, which is directly determined by the unique relaxed movement style of Tai Chi. In our daily activities, the sympathetic and parasympathetic nervous systems are in a state of mutual balance, with the parasympathetic system having a greater influence during relatively calm states. When the body engages in labor or exercise, if the force and frequency of

muscle contractions exceed a certain threshold, it activates the sympathetic nervous system, subsequently triggering the humoral system (including the hypothalamus-adrenal axis and RAAS). In other words, whether the sympathetic-humoral system is activated depends on two parameters of skeletal muscle contraction: force and frequency. If these parameters are high and surpass a certain threshold, the sympathetic-humoral system is activated; conversely, if muscle contraction force and frequency are low and do not exceed the activation threshold, the sympathetic-humoral system remains inactive. Tai Chi is a cultural treasure rooted in ancient philosophical ideas and traditional cultural cores, inheriting the same lineage as pre-Qin breathing exercises, Han Dynasty animal mimicry exercises, Song Dynasty Eight Pieces of Brocade, Yijinjing, Xisuijing, Qigong, and others, albeit with differing surface characteristics. From a kinematic perspective, they share the same essence: they are "still" movements with dynamic elements within stillness and stillness within movement. In Tai Chi practice, movements are slow and gentle, emphasizing muscle relaxation. The force, frequency, and speed of muscle contractions are slower than those in daily life activities, thus not activating the sympathetic nervous system and humoral system. In exercise physiology, this means that the graded potentials generated by muscle contraction force, frequency, and speed in Tai Chi are lower than the threshold for action potentials, and therefore no action potentials are formed. Although graded potentials may occur in muscles, they do not generate action potential neural pulse signals transmitted

from skeletal muscles to the central nervous system, possibly due to a gradual decrease in incoming neural pulse signals, which are insufficient to form activated sympathetic nervous system potential signals. Additionally, the mindfulness requirement in Tai Chi practice also increases parasympathetic tension, such as slower and deeper breathing.

7. 太极拳心肺机制的生理学效应

以上这大大小小的机制中，心肺机制相对独立一些，也是我研究花时间最多，搞得比较透彻的。由于心肺在解剖上是在同一个腔室内，他们的机制也紧密联系在一起。所以，深入、详细描述心脏机制必须和肺脏的机制放在一起介绍。太极拳心肺机制，概况起来有如下 10 个效应：

- (1) 太极拳增加心脏供氧，原则上 CO 提高，一定增加心脏供氧。但是在不同的运动方式和运动机制下，心脏的供氧状态是不同的。
- (2) 太极拳不增加或降低心肌耗氧，这是由低 SV 推导出来的。SV 本身是一个量（Volume）的概念，即心脏每次收缩所搏出的血量。心脏收缩搏出血量，需要做功，搏出量越大，做功就越多；反之，搏出量越小，做功就越少。而心肌做功是需要消耗氧的，做功越多消耗的氧就越多，做功越少消耗的氧就越少。这样，就把心脏的搏出量、收缩力、做功、耗氧联系在一起。用 SV 可以指代心肌耗氧，SV 不升高，意味着心肌耗氧没有增加；SV 下降，等于心肌耗氧下降。相对于常规运

动，SV 升高，意味着常规运动升高了心肌的耗氧。

- (3) 心脏的小动脉与心肌大致成垂直交叉结构，小动脉从心肌束中穿过，由心脏表层直达心腔内膜。心脏收缩时，心肌对小动脉有压缩效应，导致收缩期小动脉管径变小，心肌的灌注流量减少。这是为什么心肌灌注主要在舒张期，而不在收缩期的原因之一。太极拳运动中，SV 不升高，也就是说心肌的收缩力较轻，心肌对小动脉的挤压效应较小，那么理所当然血流量就会较高，灌注较多。这是由 SV 的表现引出的心脏生理效应。
- (4) 前边的介绍中，曾经提到过，冠状动脉的入口处在大动脉瓣膜后的动脉窦里。心脏收缩时，动脉瓣膜打开，部分挡住了动脉窦内的冠脉入口。而在舒张期，动脉瓣膜闭合，冠脉入口完全裸露出来，如果舒张期的血压较高，势必增加舒张期的灌注。而太极拳运动的血压主要由心率提高贡献，心率提高贡献的血压特征是舒张压提高较多。由此，我们可以得出太极拳运动的血压机制产生心脏舒张期有较高的灌注压，提高了舒张期心脏的灌注量。以上的四点，都是从心脏本身的机制来说明太极拳对于心脏的生理效应。
- (5) 太极拳运动的呼吸方式是低频率、高幅度，也就是说太极拳运动是一种强负压呼吸方式。强负压呼吸对心脏有什么效应呢？我们知道冠状动脉附着在心脏的表面，胸腔的压力对冠状动脉会有一定的影响。当胸腔的负压程度提高时，冠状动脉的扩张程度就高，管径就略大，流量就会较高。按照泊肃叶公式，流量变化是管径半径变化的 4 倍，可见冠状动脉管径略微的变化都会引起心脏灌注的巨大变化。太极拳运动呼吸频率不变，而胸腔扩展的程度是静态的 4 倍，由此可见太极拳运动时胸腔的负压程度是大幅度提高的，必然对冠状动脉的管壁压力与管径有一定的影响。

- (6) 心脏后负荷是心脏收缩泵血要克服的阻力，这种阻力包含了主动脉壁弹性的阻力。如果主动脉壁的弹性越高，心脏收缩要克服的阻力就越小。如果胸腔负压提高，就能够增加主动脉管壁的顺应性、相对减少主动脉管壁的阻力，也就是节约了心肌做功的耗氧。
- (7) 心脏不仅仅是在收缩期做功、耗氧，舒张期并不是单纯的被动舒张，而是有某种程度上的主动舒张过程，这个舒张过程同样需要消耗一定的氧。那么，胸腔负压提高也可能增加心脏舒张的顺应性，而降低心脏舒张期的氧耗。
- (8) 强负压有利于肺脏的扩张。我们知道肺是没有肌肉的，肺的扩张是因为胸腔的扩张形成负压而扩张，负压程度越高，肺的扩张程度也越高。
- (9) 强负压有利于从心脏经肺动脉、肺静脉的循环，降低循环阻力，节约循环能耗。
- (10) 最后强负压有利于静脉血回流。我们知道静脉回流到心脏，最主要的动力就是胸腔负压形成的负压差梯度，在静脉窦和肌肉泵的共同作用下，让静脉血能够从下肢逆重力而上回到心脏。负压程度与回流阻力成反比，负压程度越高，回流阻力越小，所耗能量越少。常规运动通过提高呼吸频率和呼吸幅度来增加通气量，在同等通气量情况下，显然没有单纯通过增加呼吸幅度而不增加呼吸频率产生的负压程度高。

7. The physiological effects of Tai Chi on the cardiovascular and respiratory mechanisms.

Among the various mechanisms mentioned above, the cardiovascular and respiratory mechanisms are relatively independent and are the ones I have spent the most time researching and understanding thoroughly. Because the heart and lungs are anatomically located

within the same cavity, their mechanisms are closely intertwined. Therefore, a detailed description of the cardiac mechanism must be presented alongside the pulmonary mechanism. The cardiovascular and respiratory mechanisms of Tai Chi can be summarized as follows with 10 effects:

- (1) Tai Chi increases cardiac oxygen supply. In principle, an increase in cardiac output (CO) will certainly increase cardiac oxygen supply. However, under different exercise modalities and mechanisms, the oxygen supply status of the heart varies.
- (2) Tai Chi does not increase or decrease myocardial oxygen consumption, which is derived from the low Stroke Volume (SV). SV itself is a concept of volume, indicating the amount of blood ejected by the heart with each contraction. The cardiac contraction and ejection of blood require energy, and the greater the ejection volume, the more energy is expended; conversely, the smaller the ejection volume, the less energy is expended. Myocardial energy expenditure is directly related to the amount of work performed, with higher workloads requiring more oxygen and lower workloads requiring less oxygen. Therefore, stroke volume can be used as an indicator of myocardial oxygen consumption; when SV does not increase, it means myocardial oxygen consumption has not increased, and when SV decreases, it indicates a decrease in myocardial oxygen consumption. Compared to conventional exercise, an increase in SV implies increased myocardial oxygen consumption during conventional exercise.
- (3) The small arteries of the heart roughly intersect perpendicularly with the myocardium, passing through the

myocardial bundles from the heart's surface to the endocardium. During cardiac contraction, the myocardium exerts a compressive effect on the small arteries, causing them to narrow during systole and reducing myocardial perfusion flow. This is one of the reasons why myocardial perfusion primarily occurs during diastole rather than systole. In Tai Chi exercise, the Stroke Volume (SV) does not increase, indicating lighter myocardial contraction force. As a result, the myocardial compression effect on the small arteries is reduced, leading to higher blood flow and increased perfusion. This physiological effect is elucidated by the behavior of SV.

- (4) In the previous discussion, it was mentioned that the entrance of the coronary artery is in the aortic sinus behind the aortic valve. During cardiac contraction, the aortic valve opens partially, obstructing the entrance of the coronary arteries in the sinus. However, during diastole, the aortic valve closes, fully exposing the entrance of the coronary arteries. If the blood pressure during diastole is high, it will inevitably increase diastolic perfusion. The blood pressure during Tai Chi exercise is mainly contributed by an increased heart rate, characterized by a greater increase in diastolic pressure. Therefore, we can conclude that the blood pressure mechanism during Tai Chi exercise results in higher perfusion pressure during diastole, increasing the perfusion volume during diastole. These four points illustrate the physiological effects of Tai Chi on the heart from the perspective of the heart's own mechanisms.
- (5) The breathing pattern in Tai Chi exercise is characterized by low frequency and high amplitude, which means it is a form of strong negative pressure breathing. What effects does strong negative pressure breathing have on the heart? We

know that the coronary arteries attach to the surface of the heart, and the pressure in the chest cavity can influence the coronary arteries to some extent. When the negative pressure in the chest cavity increases, the extent of dilation of the coronary arteries also increases, the diameter slightly increases, and the flow rate becomes higher. According to Poiseuille's law, the change in flow rate is four times the change in radius, indicating that even slight changes in the diameter of the coronary arteries can cause significant changes in cardiac perfusion. In Tai Chi exercise, the breathing frequency remains constant, while the extent of expansion in the chest cavity is four times greater statically. This suggests that during Tai Chi exercise, the negative pressure in the chest cavity is significantly increased, which inevitably has a certain impact on the pressure and diameter of the coronary artery walls.

- (6) Afterload in the heart refers to the resistance that the heart's contraction must overcome to pump blood, which includes the resistance from the elasticity of the aortic wall. The higher the elasticity of the aortic wall, the lower the resistance the heart must overcome during contraction. If the negative pressure in the chest cavity increases, it can increase the compliance of the aortic wall, relatively reduce the resistance of the aortic wall, and thus save oxygen consumption in myocardial work.
- (7) The heart not only performs work and consumes oxygen during systole but also undergoes an active relaxation process during diastole, which also requires a certain amount of oxygen consumption. Therefore, an increase in negative pressure in the chest cavity may also enhance the compliance of cardiac relaxation, thus reducing oxygen consumption during the cardiac diastolic phase.

- (8) Strong negative pressure benefits lung expansion. We know that the lungs lack muscles, and their expansion is due to the negative pressure generated by the expansion of the chest cavity. The higher the negative pressure, the greater the expansion of the lungs.
- (9) Strong negative pressure is beneficial for circulation through the pulmonary artery and pulmonary vein from the heart, reducing circulatory resistance and saving circulatory energy consumption.
- (10) Finally, strong negative pressure is beneficial for venous blood return. We know that the main driving force for venous return to the heart is the negative pressure gradient formed by the negative pressure in the chest cavity. With the combined action of the venous sinuses and muscle pump, venous blood can flow against gravity from the lower limbs back to the heart. The degree of negative pressure is inversely proportional to the resistance to return flow; the higher the negative pressure, the lower the resistance to return flow, and thus, the less energy is consumed. Conventional exercise increases ventilation by raising respiratory rate and depth. However, under the same ventilation conditions, it is evident that increasing respiratory depth without increasing respiratory rate generates a higher degree of negative pressure.

8. 关于运动的相关概念

运动就是物质在物理空间上的移动，人体运动就是人体在骨骼肌收缩带动下的肢体移动。从不同的角度、以不同的标准，运动有不同的分类。为了描述太极拳的运动特征，我们在这里引入一对概念，常规运动与传统运动，以是否激活交感神经为标准，激活交感神经的运动属于常规运动，不激活交感神经的运动属于传统运动。以这个标准，

中国的传统武术，虽然也是传统运动，但是不是我们在描述的传统运动。常规运动与传统运动在生理学上的根本区别就是交感神经是否被激活，常规运动激活交感神经系统，传统运动不激活交感神经系统。交感神经系统激活与否，会引起一系列的生理反应，生理学上最主要的效应是内脏血流减少，呼吸频率加快、心跳加速、心脏收缩力提高。我们日常感受到交感神经激活最直接、最明显的感受是“气喘吁吁”。常规运动与传统运动的共同之处，是心排量（CO）的增加。心排量增加的本质就是吸氧量的增加，运动的本质是由于骨骼肌做功提高了氧的消耗。在心脏功用上常规运动与传统运动的不同是，传统运动的心率高于常规运动，而传统运动的 SV 低于常规运动。在呼吸方式上区别是传统运动不提高呼吸频率，只提高呼吸的幅度。

8. Concepts Related to Exercise

Exercise is the movement of matter in physical space; human movement is the motion of limbs driven by skeletal muscle contractions. From different perspectives and according to different criteria, exercise can be classified in various ways. To describe the characteristics of Tai Chi movements, we introduce two concepts: conventional exercise and traditional exercise. The standard is whether the sympathetic nervous system is activated. Exercise that activates the sympathetic nervous system is classified as conventional exercise, while exercise that does not activate it is classified as traditional exercise. According to this standard, traditional Chinese martial arts,

although considered traditional exercise, are not the traditional exercise we are describing here.

The fundamental physiological difference between conventional and traditional exercises lies in whether the sympathetic nervous system is activated. Conventional exercise activates the sympathetic nervous system, while traditional exercise does not. Whether the sympathetic nervous system is activated induces a series of physiological responses. The main physiological effects include reduced visceral blood flow, increased respiratory rate, accelerated heartbeat, and increased cardiac contraction force. The most direct and obvious sensation of sympathetic nervous system activation that we experience is being "out of breath."

The commonality between conventional and traditional exercises is the increase in cardiac output (CO). The essence of increased cardiac output is the increase in oxygen uptake, as the essence of exercise is the increased oxygen consumption due to the work done by skeletal muscles. The difference in cardiac function between conventional and traditional exercises is that traditional exercise has a higher heart rate, but a lower stroke volume (SV) compared to conventional exercise. In terms of breathing patterns, traditional exercise does not increase the respiratory rate but only increases the depth of breathing.

在此定义基础上，由于传统运动不激活交感神经系统，不会减少内脏血流，而随着 CO 的增加和灌注压的增加，必然地传统运动就要增加内脏的血流供应。因此，我们把增加内脏血流供应的运动，称为“全氧运动”。全氧运动与有氧运动的区别是，全氧运动增加内脏的血流，有氧运动减少内脏血流。因为，在运动中血流的本质是氧的输送。所以，从内脏血流是否减少，又可以定义出健康型运动与娱乐型运动，尽管很多从事娱乐目的运动的人也是为了健康。注意我们这里是以生理学来定义和描述运动类型，而不是以特定人的特定目的。

Based on this definition, since traditional exercise does not activate the sympathetic nervous system and does not reduce visceral blood flow, with the increase in CO and perfusion pressure, traditional exercise inevitably increases visceral blood supply. Therefore, we call exercise that increases visceral blood flow "full-oxygen exercise." The difference between full-oxygen exercise and aerobic exercise is that full-oxygen exercise increases visceral blood flow, while aerobic exercise reduces it. Since the essence of blood flow during exercise is the delivery of oxygen, we can also define health-oriented exercise and recreational exercise based on whether visceral blood flow decreases. Note that many people engage in recreational exercise for health purposes. Here, we define and describe exercise types from a physiological perspective, rather than based on specific individuals' particular goals.

传统运动、全氧运动的根本生理参数是交感神经的状态，即交感神经的张力。在实际的运动中，可以以心率作为传统运动和全氧运动的参考指标，在呼吸频率不超过 20 的情况下，如果心率能够超过 110，应该就是这类运动。因为，在常规运动中，心率超过 110，多数情况会伴随呼吸频率的加快，快于安静状态。在理论上我们以交感神经的是否被激活作为常规运动与传统运动的本质区别，但是基于当前科学技术的水平还没有便利的可以准确直接测试交感神经张力的仪器设备。在临床与实践中，往往心率是最简便的观察指标。在常规运动中，由于交感神经被激活，HR 与 SV 耦合联动，共同提高贡献 CO。所以在同等运动强度条件下，常规运动的心率没有传统运动那么高。而在传统运动中，由于交感神经没有被激活，HR 与 SV 解联或没有耦合联动，SV 没有升高，CO 是由 HR 单独升高贡献的。所以，HR 在传统运动中要高于常规运动。

The fundamental physiological parameter of traditional exercise and full-oxygen exercise is the state of the sympathetic nervous system, specifically its tone. In actual practice, heart rate can be used as a reference indicator for traditional exercise and full-oxygen exercise. If the heart rate exceeds 110 while the respiratory rate does not surpass 20, exercise likely falls into this category. In conventional exercise, a heart rate over 110 is usually accompanied by an increased respiratory rate, faster than in a resting state.

Theoretically, the essential difference between conventional and traditional exercise lies in whether the sympathetic nervous system is activated. However, with current scientific and technological capabilities, we do not yet have convenient and accurate instruments to directly measure sympathetic nervous system tone. In clinical and practical settings, heart rate is often the simplest observation indicator.

In conventional exercise, since the sympathetic nervous system is activated, HR and SV are coupled, contributing together to increase CO. Therefore, under the same exercise intensity, the heart rate in conventional exercise is not as high as in traditional exercise. In traditional exercise, because the sympathetic nervous system is not activated, HR and SV are decoupled or not coupled, and SV does not increase. As a result, the increase in CO is solely due to an increase in HR. Thus, HR in traditional exercise is higher than in conventional exercise.

运动强度的本质是氧耗，运动强度越高，氧耗就越大，反之亦然。因为运动的实质就是肌肉收缩带动肢体移动，肌肉收缩做功就需要消耗氧气。所以，在本质上只有吸氧量能够代表运动的强度。能够代表运动强度的次一级的概念是心排量 CO，心排量就是每分钟心脏搏出的血量。运动强度越高，心脏需要搏出的血量就越大，氧需要通过血液输送。所以，心排量是除了吸氧量之外最能够代表运动强度的生理指标。为什么心排量不能等同吸氧量来代表运动强度呢？二者的差别在于静脉回心血的氧含量。静脉回心血流的氧含量，通常可能 75%左右，这代

表细胞对氧的利用程度，细胞的氧利用率高，静脉回心血流的氧含量就低，反之就高。由于动脉血的氧饱和度基本是固定的，或者说变化不大，那么细胞用掉了多少氧，就决定回心血流氧的含量，如果静脉回心血流的氧含量是 70%，就表示细胞多用了 5% 的氧。

The essence of exercise intensity is oxygen consumption: the higher the exercise intensity, the greater the oxygen consumption, and vice versa. This is because the core of exercise is the contraction of muscles driving limb movements, and muscle contraction requires oxygen to perform work. Thus, fundamentally, only oxygen uptake can truly represent exercise intensity.

A secondary concept that can represent exercise intensity is cardiac output (CO), which is the amount of blood the heart pumps per minute. Higher exercise intensity requires the heart to pump more blood, as oxygen needs to be transported through the bloodstream. Therefore, CO is the physiological indicator that best represents exercise intensity besides oxygen uptake.

Why can't CO be equated with oxygen uptake in representing exercise intensity? The difference lies in the oxygen content of the venous return. The oxygen content in the venous return is typically around 75%, representing the extent of oxygen utilization by cells. If cells use oxygen more

efficiently, the oxygen content in the venous return decreases, and if less oxygen is used, it increases. Since the oxygen saturation in arterial blood is relatively constant or changes very little, the amount of oxygen used by cells determines the oxygen content in the venous return. For example, if the oxygen content in the venous return is 70%, it indicates that cells have used an additional 5% of oxygen.

在临床与运动实践中，常常以心率作为运动强度的衡量指标，在常规运动中这也许没有问题。之所以如此，是通过大量的实验数据把心率与吸氧量作了某种勾连，以不同的心率对应不同的吸氧量。这种勾连背后的逻辑是常规运动激活交感神经，使 HR 与 SV 耦合联动。在我们发现太极拳运动的特殊生理机制前，这是成立的。但是在传统运动情况下，交感神经没有被激活，HR 与 SV 解联，CO 由 HR 单独贡献，因而在同样的运动强度、吸氧量情况下，HR 就远远高于相应的常规运动。所以，如果以心率作为运动强度的指标，就必须指明这种运动是常规运动还是传统运动。

In clinical and exercise practice, heart rate (HR) is often used as a measure of exercise intensity. This is generally acceptable for conventional exercise. This practice is based on extensive experimental data that correlates heart rate with oxygen uptake, associating different heart rates with different levels of oxygen consumption. The underlying logic is that conventional exercise activates the

sympathetic nervous system, coupling HR and stroke volume (SV) in tandem.

Before discovering the unique physiological mechanisms of Tai Chi, this correlation held true. However, in traditional exercise, the sympathetic nervous system is not activated, resulting in a decoupling of HR and SV. In this scenario, cardiac output (CO) is solely contributed by HR. Therefore, for the same exercise intensity and oxygen uptake, HR is significantly higher in traditional exercise compared to conventional exercise.

Thus, if heart rate is to be used as an indicator of exercise intensity, it is essential to specify whether the exercise in question is conventional or traditional.

TABLE 1.1 Modified Classification of Exercise Intensities as Recommended for Healthy Adults by ACSM and the Surgeon General ^a											
Intensity ^b	Relative Intensity of Dynamic Exercise					Absolute Intensity of Dynamic Exercise (MET) for Healthy Adults of Various Ages					Static Resistance Exercise % MVC
	$\dot{V}O_2 R$ (%)	$\dot{V}O_{2max}$ (%)	HR Reserve (%)	Maximal HR (%)	Rating PE	Young (20–39 yr)	Middle Aged (40–64 yr)	Old Age (65–79 yr)	Very Old Age (80+ yr)		
Very light	<20	<25	<20	<35	<10	<2.4	<2.0	<1.6	<1.0	<30	
Light	20–39	25–44	20–39	35–54	10–11	2.4–4.7	2.0–3.9	1.6–3.1	1.1–1.9	30–49	
Moderate	40–59	45–59	40–59	55–69	12–13	4.8–7.1	4.0–5.9	3.2–4.7	2.0–2.9	50–69	
Heavy	60–84	60–84	60–84	70–89	14–16	7.2–10.1	6.0–8.4	4.8–6.7	3.0–4.24	70–84	
Very heavy	≥85	≥85	≥85	≥90	17–19	≥10.2	≥8.5	≥6.8	≥4.25	≥85	
Maximal	100	100	100	100	20	12	10.0	8.0	5.0	100	

^aTable foundation is for dynamic exercise lasting for 60 minutes (9).
^bContains consistent and historic terminology e.g. heavy for hard, very heavy for very hard
HR, heart rate; R, reserve; PE, perceived exertion; MET, metabolic equivalent; MVC, maximum voluntary contraction; RPE, Borg listings on a scale of 6–20 (20,32).
MET expressed in units of milliliters of oxygen per kilogram per minute, as 1 MET = 3.5 mL · kg⁻¹ · min⁻¹. MET values are approximate means for men; women's means are 1 to 2 METs lower (9).
Permission to use the template for Table 1.1 was granted by Dr. William Haskell of Stanford University.
Modified from Table 2.4 of the Surgeon General Report by the U.S. Department of Human Services (9) and from Table 1 of the Position Stand on the Quantity and Quality of Exercise by ACSM (20).

如何定义治疗性运动（Therapeutic Exercise）？具体说就是如何定义医学太极（Therapeutic Tai Chi）？我们已经知道，运动的本质是氧耗，而慢性病多数都和缺氧有关。那么运动之于慢性病的实质关系就是氧供的问题。前边我们讨论了常规运动减少内脏血流量，从健康角度、从慢性病角度，

常规运动不能成为健康型运动，更谈不上治疗性运动了。不是说常规运动不好，而是说常规运动要么是职业性的、要么是娱乐性的，适合健康人，而不能够作为慢性病患者的健康方法。这样我们定义治疗性运动（太极）的根本参数就是吸氧量，能够为内脏提供的氧越多，对慢性病的帮助就越大，大到一定程度就能够具有治疗的效果。在我们的测试中，吸氧量要达到静态的 2 倍以上，对慢性病才有显著的效果，但是我们的数据还不够充分，不足以形成结论。在临床与运动实践中，我们也可以用心率作为治疗性运动的方便观察参数，我们的经验和有限数据显示，男性 135 以上，女性 150 以上，就可以称为医学太极或 Therapeutic Tai Chi，对慢性病有显著的帮助和改善效果。不论是以吸氧量作为治疗性运动强度参数，还是以心率作为治疗性运动强度参数，前提是呼吸频率不能超过每分钟 20 次。还有就是 SV 没有显著提高。总结一些，医学太极：吸氧量是静态的 2 倍以上，心率 135 以上，呼吸频率不变，SV 没有显著提高。本质，交感神经没有激活。

Defining Therapeutic Exercise

Therapeutic exercise, specifically therapeutic Tai Chi, can be defined by its ability to increase oxygen consumption and supply to the organs. We understand that the essence of exercise lies in oxygen consumption, and many chronic diseases are related to hypoxia. Therefore, the fundamental relationship between exercise and chronic diseases is the issue of oxygen supply.

We previously discussed that conventional exercise reduces visceral blood flow. From the perspectives of health and chronic diseases, conventional exercise cannot be considered healthy or therapeutic. This does not imply that conventional exercise is bad, but rather that it is either professional or recreational and suitable for healthy individuals. It cannot serve as a health method for chronic disease patients.

Thus, the key parameter for defining therapeutic exercise, including therapeutic Tai Chi, is oxygen consumption. The more oxygen that can be supplied to the organs, the more beneficial it is for chronic diseases. At a certain level, this can even have therapeutic effects. Our tests indicate that oxygen consumption needs to be more than twice the resting level to have a significant effect on chronic diseases, although our data is not yet sufficient to draw definitive conclusions.

Practical Parameters for Therapeutic Tai Chi

In clinical and exercise practice, heart rate can be used as a convenient parameter to observe therapeutic exercise. Based on our experience and limited data, a heart rate above 135 bpm for men and above 150 bpm for women can be considered therapeutic Tai Chi, which has significant benefits and improvements for chronic diseases.

Whether using oxygen consumption as the parameter for therapeutic exercise intensity or heart rate as the parameter, the prerequisite is that the respiratory rate should not exceed 20 breaths per minute, and stroke volume (SV) should not increase significantly.

Summary of Therapeutic Tai Chi

Oxygen Consumption: More than twice the resting level

Heart Rate: Above 135 bpm for men, above 150 bpm for women

Respiratory Rate: Remains unchanged, not exceeding 20 breaths per minute

Stroke Volume: No significant increase

Essential Characteristic: The sympathetic nervous system is not activated

By ensuring these parameters, therapeutic Tai Chi can effectively provide increased oxygen to the organs, offering significant help and improvement for chronic disease patients.

太极拳对于健康的本质作用就是氧，治疗性运动、医学太极的本质是吸氧量的多少。在常规运动中，吸氧量与内脏血流是一对矛盾，吸氧量越大，内脏血流反而越少，这个矛盾背后的机制就是交感神经。常规运动无法克服这一对矛盾。吸氧量与内脏血流

的矛盾只有在传统运动、太极拳运动中得到了解决，太极拳可以在不激活交感神经的情况下增加吸氧量，因而增加内脏血流和氧供。

The essential impact of Tai Chi on health is fundamentally related to oxygen. The core of therapeutic exercise and therapeutic Tai Chi is the amount of oxygen consumption. In conventional exercise, there is a conflict between oxygen consumption and visceral blood flow: the greater the oxygen consumption, the less visceral blood flow. This contradiction is due to the activation of the sympathetic nervous system, which conventional exercise cannot overcome.

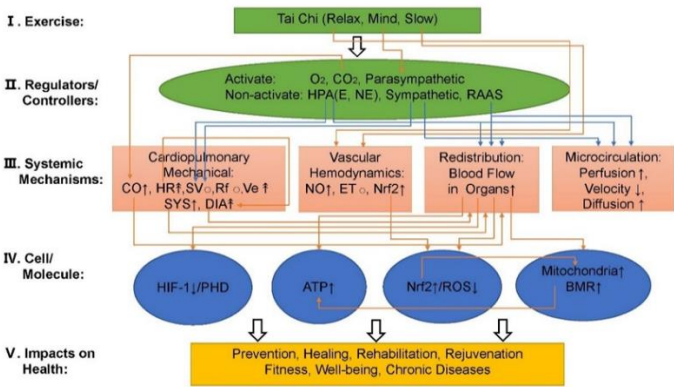
However, this conflict between oxygen consumption and visceral blood flow is resolved in traditional exercises like Tai Chi. Tai Chi can increase oxygen consumption without activating the sympathetic nervous system, thereby increasing visceral blood flow and oxygen supply.

9. 太极拳的细胞分子机制

上文我介绍的机理，都是生理层面的，还有一些细胞分子机制太极拳也非常特别。当然这些细胞分子层面的机制都是在生理机制前提下发挥作用的，没有生理机制，就不可能有细胞分子层面的机制。我选几个小问题简单叙述一些。

Cellular and Molecular Mechanisms of Tai Chi

The mechanisms I introduced earlier are primarily at the physiological level. However, there are also some unique cellular and molecular mechanisms associated with Tai Chi. Of course, these cellular and molecular mechanisms operate based on the physiological mechanisms; without the physiological mechanisms, the cellular and molecular mechanisms would not exist. I will briefly describe a few specific issues.



- 1) 首先是缺氧诱导因子 HIF。HIF 的发现者获得 2018 年诺贝尔医学奖。HIF 是人体不可缺少的一个分子，它对于健康的关系只在于多少。健康人在常氧状态下，HIF 被 PHDs（Prolyl Hydroxylase）脯氨酸羟化酶调控。HIF 由两个前体分子组成，HIF-α 和 HIF-β，HIF-α 和 HIF-β 结合生成 HIF。PHDs 通过与 HIF-α 结合，竞争性阻止了 HIF-α 与 HIF-β 结合生成 HIF。但是，PHDs 和 HIF-α 结合时需要一个氧原子，常氧条件下这个过程可以完成，PHDs 与 HIF 拮抗平衡。在缺氧条件下，PHDs 无法与 HIF-α 结合阻止 HIF 的产生，导致 HIF 在细胞内堆积，诱导了其 100 多种生化反应改变。如果能够增加细胞的供氧，

就可以提高 PHDs 拮抗平衡 HIF 的能力，使 HIF 得到抑制，从而使细胞内的生化反应回归正常。我们希望我们对于太极拳供氧机制的发现，能够帮助人类战胜癌症。

2) ATP，三磷酸腺苷。ATP 是人体细胞唯一能够使用的通用能量，我们从饮食中摄的碳水化合物，如果不经过细胞转化成 ATP，细胞就无法使用。慢性病患者，多数伴随不同程度的缺氧，其中表现之一就是基础代谢率降低。即使是没有慢性病的人健康人，也会随着年龄的增加而逐步降低基础代谢率。基础代谢率就是人体将饮食中的能量转化成 ATP 的能力。人体的生理活动，细胞的再生与更新都需要能量。基础代谢率的降低，就意味着人体能够提供给细胞的能量减少，这样细胞再生与更新的速率和过程就会受到影响。可以想象，人体年轻细胞和老细胞的不同比例，一定会对人体的生理功能有影响。不难理解年轻态基础代谢率肯定高于普通非健康的人群。

3) Nrf2 与 NO，都是人体必需的分子。与 HIF 不同，Nrf2 和 NO 是正向分子，对健康起正向作用，而 HIF 对于健康是起负向作用（严格讲是过量的 HIF 对健康起负向作用）。Nrf2 和 NO 在人体中都有不同的来源，其中重要的一个来源与运动相关，就是血管内皮分泌。已有研究显示，血管内皮受到平顺血流的剪应力刺激时分泌更多的 Nrf2 和 NO。而血管内皮受到更多紊流、乱流刺激时，分泌更多的血管内皮素和过氧化物。我们已经知道太极拳是一种非常温和、平缓的运动，身体没有剧烈的震动和激烈的节奏，血流在血管中的流动状态必然不同于常规运动的剧烈震荡和激烈节奏。NO 是小分子，能够穿越血管内皮进入血管中层起到对血管的修复作用。而 Nrf2 具有非常强的抗氧化作用。NO 一氧化氮获得了 1998 年的诺贝尔医学奖。

3) Nrf2 and NO are essential molecules in the human body. Unlike HIF, which has a negative impact on health (specifically in excessive amounts), Nrf2 and NO have positive roles in promoting health. Nrf2 and NO have various sources in the body, with one important source related to exercise being the secretion from vascular endothelium. Research has shown that vascular endothelium secretes more Nrf2 and NO when subjected to smooth blood flow shear stress. On the other hand, when vascular endothelium is exposed to turbulent flow or disturbed flow, it secretes more endothelin and peroxides.

Tai Chi is known for its gentle and slow movements, without intense vibrations or rapid rhythms, which likely results in a different flow pattern of blood in the blood vessels compared to more vigorous exercises. NO is a small molecule capable of penetrating the endothelium and entering the middle layer of blood vessels, where it contributes to vascular repair. Nrf2, on the other hand, exhibits strong antioxidant properties. One significant recognition is that nitric oxide (NO) won the Nobel Prize in Physiology or Medicine in 1998.

4) 磷酸化，很多分子失活是因为在某个特定的位点缺磷酸化，如凋亡的失活。ATP 的主要功能是承载、传递能量，ATP 三个磷中的第三个富含高位化学能。ATP 由 ADP 加一个磷组成，ATP 在水解释放高位化学能的同时，重现分解成 ADP 加一个磷原子。这个磷原子就是其他分子磷酸化磷的来源。所以，太极拳

运动在增进 ATP 为细胞输送能量的同时，也为细胞中的其他生化反应提供了磷的来源，从而活化相关分子的活性，激活那些失活的功能。

4) Phosphorylation is a crucial process where many molecules become inactive due to the absence of phosphorylation at specific sites, such as in the case of apoptosis. The primary function of ATP is to carry and transfer energy, with the third phosphate group of ATP containing high-energy phosphate bonds. ATP is composed of ADP plus a phosphate group, and during hydrolysis, ATP releases high-energy phosphate bonds, reverting back to ADP plus a phosphate group.

This phosphate group serves as the source of phosphate for phosphorylating other molecules. Therefore, Tai Chi practice not only enhances ATP's ability to deliver energy to cells but also provides a source of phosphate for other biochemical reactions within cells. This can activate the activity of relevant molecules and re-activate functions that were previously inactive.

常重要的细胞器，承担转化能量的重任。所以线粒体也被称作细胞的发电厂。研究已经表明，运动可以改变线粒体的体积和数量，这是基础代谢率提升的基础。我本人在习练太极拳 5 年后测得基础代谢率提高了 8%，这是对年龄年轻了 26 岁。生理学对于基础代谢率与年龄的关系是，基础代谢率每 10 年降低 3%，年龄越大基础代谢率越低，所以基础代谢率降低也是人体衰老的表征之一。

5) Mitochondria are indeed crucial organelles within cells, often referred to as the cell's powerhouses due to their role in energy conversion. Research has shown that exercise can alter the size and quantity of mitochondria, which forms the basis for the increase in basal metabolic rate (BMR). Personally, after practicing Tai Chi for 5 years, I measured an 8% increase in my BMR, equivalent to reversing the aging process by 26 years.

Physiologically, there's a relationship between BMR and age, where BMR decreases by 3% every 10 years. As individuals age, their BMR tends to decrease, and this decline in BMR is one of the indicators of aging in the human body.

5) 线粒体。线粒体是细胞中的一种非

A Brief History of American Academy of Acupuncture and Oriental Medicine

by Changzhen Gong, Ph.D.

The American Academy of Acupuncture and Oriental Medicine was founded in 1997 in Minnesota, with the aid and support of many

people and institutions in China and the United States. The Shandong University of Traditional Chinese Medicine in Jinan, China, provided a

model for the authentic curriculum, instructional methods and standards of practice adopted by the Academy. In 1999, the first group of students were accepted into the program, and 2003 saw the first graduating class. Graduates of the Academy receive a Master of Science degree in Acupuncture and Oriental Medicine after completing a rigorous four-year academic and clinical-training program. The goal of the program is to integrate the best of traditional and modern medicine, training health care professionals to pursue a career of lifelong learning and service to the community.

Since its founding, the American Academy of Acupuncture and Oriental Medicine (AAAOM) has established itself as a leader in traditional Chinese medicine education and clinical services in the Midwest. Students in our program absorb traditional Chinese medicine (TCM) therapeutic modalities including acupuncture, Chinese herbs, Tui Na, dietary therapy, Tai Chi and Qigong. Over ninety percent of our graduates become licensed and active practitioners of acupuncture and Oriental medicine, thus bringing the fruits of their education to an ever-expanding patient base.

The Academy is justly proud of its distinguished faculty members, many of whom hold Ph.D. degrees in their area of specialty. The faculty has collectively published over one thousand books, papers and clinical manuals, contributing significantly to the advancement of TCM theory and practice. Another highlight of the AAAOM campus was its library, which held over twenty thousand volumes of texts and one hundred fifty journals in acupuncture and traditional Chinese medicine.

Major Landmarks and Highlights

In 1997, the American Academy of Acupuncture and Oriental Medicine (AAAOM) emerged on the landscape of Minnesota, laying the cornerstone for a groundbreaking institution. With a vision to cultivate excellence in acupuncture and oriental medicine education, AAAOM embarked on a journey that would reshape the educational landscape.

Two years later, in 1999, AAAOM welcomed its inaugural class of students, marking the dawn of a new era in holistic education in Minnesota. As the doors swung open, a diverse cohort of eager minds stepped into the halls of learning, ready to embrace the wisdom of ancient healing traditions.

In 1999, the globally acclaimed acupuncture expert, Dr. Wang Dai, conducted a week-long seminar at AAAOM. The seminar covered advanced topics such as "Jumping Point Needling" and "Twenty-six Techniques from the Yellow Emperor's Classic of Medicine."

The turn of the millennium brought accolades to AAAOM's doorstep, as it was bestowed with the prestigious "Best Faculty" award by *TCM World* magazine in its "Best of the West 2000" edition. This recognition affirmed AAAOM's commitment to academic excellence and the nurturing of exceptional teaching talent.

In 2000, renowned Chinese medicine scholars and practitioners Bob Flaws and Hanora Wolfe visited AAAOM. They delivered insightful presentations on "Classical Formulas for Modern Conditions" and "Strategies for Running a Successful Acupuncture Business."

By 2001, AAAOM had outgrown its initial home at the University Technology Center in

Minneapolis, paving the way for a monumental transition to its new campus in Roseville. This move symbolized AAAOM's expansion and its unwavering dedication to providing a conducive learning environment for its students.

Simultaneously, AAAOM's pursuit of accreditation reached a pivotal milestone in 2001, as it attained candidacy status for graduate school accreditation. This milestone underscored AAAOM's commitment to meeting and exceeding rigorous academic standards.

As AAAOM continued to carve its path, its reputation as a beacon of holistic healing grew. In 2002, *Twin Cities Wellness* likened AAAOM to the "Mayo Clinic of Eastern Medicine," acknowledging its position as a premier institution in the field.

The following year, AAAOM received approval to confer the degree of Master of Science in Acupuncture and Oriental Medicine, further solidifying its standing as a distinguished institution of higher learning.

In 2003, AAAOM's dedication to excellence was once again recognized, as it received accolades for "Best Curriculum" and "Best New School" by *TCM World* magazine. These honors reflected AAAOM's commitment to delivering a comprehensive and innovative curriculum.

The culmination of AAAOM's early years came in 2003 when it proudly presented its first graduating class with Master of Science degrees, marking a significant milestone in the institution's history. This momentous occasion was a testament to the dedication and perseverance of both faculty and students alike.

Further cementing its reputation, AAAOM attained full accreditation as a graduate school from the Accreditation Commission for Acupuncture and Oriental Medicine in the same year, affirming its status as a trusted institution of higher education.

By 2004, AAAOM had become a prolific hub of scholarly activity, with its faculty contributing to a vast array of publications encompassing research, textbooks, reference books, clinical experience, and public education. This wealth of knowledge underscored AAAOM's commitment to advancing the field of acupuncture and oriental medicine through academic excellence and research innovation.

In 2005, the American Academy of Acupuncture and Oriental Medicine (AAAOM) expanded its influence by spearheading the formation of the editorial board for the prestigious *International Journal of Clinical Acupuncture*. This collaborative effort aimed to foster the exchange of cutting-edge research and insights within the global acupuncture community.

Simultaneously, AAAOM embarked on a groundbreaking initiative with the establishment of its first specialty clinic: the Multiple Sclerosis Clinic. Operated by AAAOM graduates and faculty members, this clinic represented a pioneering approach to holistic healthcare, offering specialized treatment and support to patients grappling with neurological challenges.

As the years progressed, AAAOM further solidified its position as a leader in acupuncture education and practice. In 2006, the institution underwent a transformative phase, bolstering its program and faculty by emphasizing five key specialty areas: TCM Neurology, TCM Gynecology, TCM Dermatology, TCM Immunology, and TCM Gastroenterology. This strategic focus aimed to provide students with comprehensive training and expertise in specialized fields of acupuncture and oriental medicine.

Fueling scholarly discourse, AAAOM's esteemed faculty made significant contributions to the field with the publication of ten volumes concerning classical Chinese herbal prescriptions by China Chinese Medicine Press in 2006. These volumes served as invaluable

resources, offering insights into traditional herbal remedies and their applications in modern healthcare practices.

Recognizing AAAOM's commitment to academic excellence, the Accreditation Commission for Acupuncture and Oriental Medicine re-accredited the institution for a five-year term in 2007, reaffirming its status as a trusted center of learning and research.

Building upon its success, AAAOM expanded its roster of specialty clinics in 2007, introducing the TCM Infertility Clinic and TCM Dermatology Clinic. These clinics provided tailored treatment options and support services, catering to the diverse healthcare needs of patients within the community.

In 2008, the Acupuncture and Oriental Medicine Association of Minnesota orchestrated an impactful "Acupuncture Day at the Capitol" event focused on advocating for insurance reimbursement for acupuncture services. AAAOM played a significant role in this event, mobilizing thirty students alongside four faculty and staff members to the state capitol. The aim was to underscore to legislators the strength and unity of Minnesota's acupuncture and Oriental medicine profession. It was imperative to showcase the rigorous professional training undertaken by practitioners and emphasize the need for its recognition and validation.

In 2008, AAAOM's faculty members undertook an ambitious three-year project, culminating in the compilation of a ten-volume series of acupuncture manuals covering 700 diseases and health conditions. Published by Tianjin Science and Technology Translation Company, these manuals represented a comprehensive resource for practitioners seeking to deepen their understanding of acupuncture's therapeutic applications.

The momentum continued in 2009 as AAAOM published an additional thirty-two volumes of classical Chinese herbal prescriptions by China Medical Science and Technology Press, further enriching the body of knowledge within the field. Additionally, AAAOM welcomed a delegation of esteemed Chinese medicine experts from the China Academy of Traditional Chinese Medicine, underscoring the institution's global reach and collaborative spirit.

As AAAOM celebrated its tenth anniversary in 2009, it marked a decade of excellence in acupuncture education and practice. With over one hundred graduates since its inception, AAAOM had established itself as a beacon of holistic healthcare, poised to shape the future of acupuncture and oriental medicine for generations to come.

In 2010, the American Academy of Acupuncture and Oriental Medicine (AAAOM) embarked on a journey of academic enrichment by enhancing its advanced course offerings. These included specialized courses on acupuncture techniques, Chinese medicine gynecology, and in-depth analysis of classical textbooks. This expansion aimed to provide students with a comprehensive understanding of traditional healing practices and advanced techniques.

Simultaneously, AAAOM furthered its commitment to scholarly pursuits with the publication of twenty volumes detailing classical acupuncture points by China Medical Science and Technology Press. These volumes served as invaluable resources for practitioners, offering detailed insights into the historical and clinical significance of acupuncture points within traditional Chinese medicine.

2010 also witnessed a momentous occasion as AAAOM welcomed Professor Ding Yie, great-grandson of the esteemed Ding Ganren, as a

guest lecturer from the Shanghai University of Traditional Chinese Medicine. Professor Ding Yie shared his expertise and insights into his great-grandfather's medicine, enriching the academic discourse at AAAOM with a deep-rooted understanding of traditional healing practices.

Additionally, AAAOM's faculty members took the initiative to foster intellectual engagement among students and staff by initiating regular lunch-hour seminars. Covering a diverse range of topics in acupuncture and Chinese medicine, these seminars provided a platform for ongoing learning and collaboration within the AAAOM community.

The momentum of scholarly endeavors continued into 2011 as AAAOM expanded its publications on classical Chinese herbal prescriptions with an additional thirty-one volumes by China Medical Science and Technology Press. These publications underscored AAAOM's dedication to preserving and disseminating the rich heritage of traditional herbal remedies.

In the same year, Professor Liu Yanchi from Beijing University of Traditional Chinese Medicine graced AAAOM with his presence, delivering seminars on healthy aging with Chinese medicine. Professor Liu's expertise offered invaluable insights into the role of Chinese medicine in promoting holistic well-being and longevity.

Moreover, 2011 saw the inception of a student-faculty discussion group, "*Chinese Medicine in the Classical Spirit*." This initiative aimed to explore innovative breakthroughs in the history of Chinese medicine, fostering dialogue and collaboration among students and faculty members.

As AAAOM entered 2012, it received re-accreditation by the Accreditation Commission for Acupuncture and Oriental Medicine, reaffirming its commitment to academic

excellence and rigorous standards of education.

Additionally, AAAOM expanded its student clinic into Wilder Foundation and Specialized Treatment Services in 2012, further extending its reach within the community and providing students with hands-on clinical experience in diverse healthcare settings.

In 2012, the American Academy of Acupuncture and Oriental Medicine (AAAOM) continued its mission of disseminating knowledge with the publication of twenty volumes detailing the applications of classical acupuncture points. These volumes served as comprehensive guides, offering practitioners insights into the clinical significance and therapeutic uses of traditional acupuncture points.

Building on this momentum, AAAOM expanded its scholarly endeavors in 2013 by publishing another thirty-one volumes of classical Chinese herbal prescriptions by China Medical Science and Technology Press. These publications enriched the body of knowledge within the field, providing invaluable resources for students and practitioners alike.

In a significant development in 2013, AAAOM student interns were granted the opportunity to offer in-patient services at the University of Minnesota-Fairview Hospital System. This hands-on experience provided students with invaluable clinical exposure, preparing them for future careers in healthcare.

2015 marked a pivotal moment for AAAOM as it received approval to offer a Doctor of

Acupuncture and Oriental Medicine (DAOM) program. This milestone reflected AAAOM's commitment to advancing education in acupuncture and oriental medicine, providing students with the opportunity to pursue advanced degrees and specialized training.

The following year, in 2016, AAAOM proudly launched its doctoral program, becoming the first institution outside of California, Oregon, Florida, and Texas to offer such a program. This pioneering initiative expanded opportunities for students seeking to further their education and expertise in acupuncture and oriental medicine. Beginning in February 2016, distinguished scholars and practitioners in acupuncture and Chinese medicine convened monthly in Minnesota to instruct AAAOM's doctoral students.

In 2016, the American TCM Association afforded AAAOM a week-long platform to exhibit its accomplishments. AAAOM orchestrated 10 seminars featuring esteemed faculty and alumni alongside 70 guest speakers through written submissions from around the world. AAAOM showcased its extensive publications, sophisticated facilities, esteemed faculty roster and diverse student body.

In 2017, AAAOM solidified its commitment to international collaboration by signing agreements with prestigious Chinese universities. These agreements with Beijing University of Chinese Medicine and Anhui University of Chinese Medicine aimed to jointly train Ph.D. and degree students, fostering

cross-cultural exchange and collaboration in academia.

AAAOM's dedication to excellence was reaffirmed in 2012 when it obtained seven years of re-accreditation from the Accreditation Commission for Acupuncture and Oriental Medicine. This accreditation underscored AAAOM's adherence to rigorous standards of education and its ongoing commitment to academic excellence.

2018 marked a momentous occasion as AAAOM celebrated the graduation of its first doctoral class, comprising thirteen students who earned their DAOM degrees. This achievement highlighted the success of AAAOM's doctoral program and the dedication of its students and faculty.

In 2019, AAAOM expanded its academic offerings by receiving approval to offer a Master of Acupuncture (MAc) program, a parallel program to its existing Master of Oriental Medicine (MOM) program. This expansion provided students with additional pathways to pursue their academic and professional goals in acupuncture and oriental medicine.

By 2020, AAAOM's doctoral program achieved full accreditation, affirming the institution's commitment to maintaining the highest standards of education and training in acupuncture and oriental medicine.

In 2021, AAAOM underwent a transition as its educational programs were transferred to the American Academy of Health and Wellness. This transition marked a new chapter in AAAOM's journey, ensuring the continued growth and evolution of its educational offerings in the field of holistic healthcare.

By 2021, in its twenty-fifth year of existence, the American Academy of Acupuncture and Oriental Medicine has graduated over four hundred students. American Academy of Health and Wellness looks forward confidently as we continue to advance the practice of Chinese medicine in the twenty-first century.

《世界中医药杂志》美国版 征稿

1. 征稿内容

涉及中医药的专论、综述、论著（包括实验研究、临床研究等有实验过程及创新数据的论文）、技术交流、教育，历史，理论，知识介绍和信息、针灸推拿、中药方剂、中西医结合，临床各科等方面的文章。

2. 文稿要求

2.1 文稿应具有科学性、实用性、时效性、可读性和可借鉴性。要有一定学术技术水平和实用价值。论点明确，资料可靠，文字精炼，层次清楚，数据可靠。

2.2 论著、综述、讲座等包括图表和参考文献一般不超6000字；经验交流、病例报告一般不超过1000字。来稿要求字迹清楚、书写规范，对特殊文种、上下角标符号、字母大小写、正斜体等均应予以注明。文稿中所用数字以阿拉伯数字为主。病例介绍要写清患者性别、年龄、初诊日期、主诉、病史、现病症状、检查及化验、诊断、辨证、病机、治法、处方、药名、剂量、用法、穴位、治疗结果、按语等。

3. 文稿格式

3.1 文题

文题应做到简明、醒目。论文所涉及的课题凡取得基金资助项目者，请予说明。论文刊登后获奖者，请及时将获奖证书复印件寄送本刊。来稿必须确认无一稿

两投、不涉及保密、署名无争议等项内容。

3.2 作者及单位

作者署名和单位，置于题目下方。作者姓名要全部依次列出，排序应在投稿时确定，在稿件编排

过程中如须变动，应由第一作者出具书面证明，作者单位需写全称(包括具体科室、部门)，并注明详细地址(××省××市、县、区××路××号)和邮政编码。各类文稿均须附英文题目和全部作者姓名汉语拼音，以便编制目次。汉语拼音姓在后，名在前，姓名的第1个汉字汉语拼音的首字母大写，其余均小写。文稿请附英文摘要，需将全部作者姓名的汉语拼音、单位的英文名、单位的英文地址，置于英文题目的下方。

3.3 作者简介

在每篇文章的最后，可附第一作者简介。请注明通讯作者，作者简介中注明第一作者及通讯作者的姓名以及联系电话、E-mail地址或传真号。无另定通讯作者的，加联系方式。通讯作者标注星号，写明联系方式。

3.4 摘要

所有文章均须附中文和英文摘要。中、英文摘要的内容要一致。采用第三人称撰写，不用“本文”等主语。论著类文稿的摘要形式使用结构式。结构式摘要主要分目的(Objective)、方法(Methods)、结果(Results)和结论(Conclusion)4部分。以200字左右为宜，最多不超过350字。

3.5 关键词

选词要规范，应尽量从美国国立医学图书馆编辑的最新版Index Medicus的Medical Subject Heading(MeSH)词表中选用规范用词，中文译名可参照中国医学科学院医学信息研究所编译的《医学主题词注释字顺表》。中医药词汇以中国中医研究院图书情报研究所编著的《中医药学主题词表》为准。未被词表收录的词，如确有必要可作为关键词标注。关键词数目一般3~5个，关键词之间用“；”分隔。无摘要的文稿，只需标注中文关键词，关键词置于正文之前；附中英文摘要的文稿

须中英文关键词，中文关键词置于中文摘要下方；英文关键词应与中文词相对应，置于英文摘要下方。

3.6 文章层次

文中标题层次用阿拉伯数字连续编号，例如：

1..., 2..., 2.1..., 2.1.1..., 一律左顶格。一、二级标题后的正文另起，缩进2字。三级标题后空1字接正文。

层次与序号写法如下：

△△△△△（黑体）（居中）

1 △△△△△（黑体）（正文另起行）

1.1 △△△△△（楷体）（正文另起行）

1.1.1 △△△△△（宋体）（空一格接排）

夹在段落内连排的序号用1) 2) 3) 4) 5)

3.7 材料与仪器

应写明型号、等级等，后用括号写明生产单位，例如：牛血清白蛋白（生化试剂，Sigma）；润洁滴眼露（生产批号，山东正大福瑞达制药）；5890A型气相色谱仪（惠普）。

3.8 医学名词

以1989年及其以后由全国自然科学名词审定委员会审定公布、科学出版社出版的《医学名词》和相关学科的名词为准，暂未公布者仍以人民卫生出版社编的《英汉医学词汇》为准。中文药物名称应使用2000年版《中华人民共和国药典》（法定药物）或卫生部药典委员会编辑的《药名词汇》（非法定药物）中的名称，必要时注明商品名，英文药物名称则采用国际非专利药名，不用商品名。

3.9 计量单位、统计符号、缩略语

3.9.1 计量单位 实行国务院1984年2月颁布的《中华人民共和国法定计量单位》，并以单位符号表示，具体使用可参照1991年中华医学会编辑出版部编辑的《法定计量单位在医学上的应用》一书。根据有关规定，血压计量单位恢复使用毫米汞柱（mm Hg），但在文中首次出现时应注明mm Hg与千帕斯卡（kPa）的换算系数（1mm Hg=0.133kPa）。

3.9.2 统计学符号

必要时应做统计学处理，如做统计学处理请务必注明所用统计学方法。按国家标准GB3358—82《统计学名词及符号》的有关规定书写，常用如下：1) 样本的算术平均数用英文小写(中位数仍用

M)；2) 标准差用英文小写s；3) 标准误用英文小写±s；4) t检验用英文小写t；5) F检验用英文大写F；6) 卡方检验用希文小写χ²；7) 相关系数用英文小写r；8) 自由度用希文小写v；9) 概率用英文大写P（P值前应给出具体检验值，如t值、χ²值、q值等）。以上符号均用斜体。

3.9.3 常用符号及名词缩略语 静脉注射iv，肌肉注射im，腹腔注射ip，皮下注射sc，口服po，饭前ac，饭后pc，每日1次qd，每晚1次qu，每4小时1次q4h，每日2次bid，每日3次tid，每日4次qid，灌胃ig，滴/每分gtt/min，1秒1s，2分钟2min，5周5wk，4天4d，7岁7a，摩尔/每升mol/L，千帕kPa（压力），白细胞WBC，血小板Plt，血小板计数BPC，血红蛋白Hb，葡萄糖Glu，尿素氮BUN，肌酐Cr，总胆红素IBI，总蛋白TP，白蛋白AL，球蛋白G，总胆固醇Tch，甘油三酯TG，尿蛋白UTP，尿糖US，单位u，国际单位IU，重量wt，容量vol。缩略语在文中应尽量少用，必须使用时，于首次出现处先叙述其中文全称，然后在其后括号内注明中文缩略语、英文全称及英文缩略语，三者间用“，”分开（如该缩略语已熟知，也可不注出其英文全称）。

3.10 数字

3.10.1 执行中华人民共和国国家标准GB/T15835-1995《出版物上数字用法的规定》，时间：公历世纪、年代、年、月、日、时刻和计数、计量均用阿拉伯数字。年份用4位数表示，如公元前8世纪，1994年不宜写成94年。避免用时间代词，如“今年”，“去年”等。小时用“h”表示，分钟用“min”表示，秒用“s”表示。小数点前或后超过3位数字时，每3位数字一组，组间空1/4格，如“7869.34”应写成“7 869.34”，“7.86934”应写成“7.869 34”。序数词和年份、页数、仪表型号、标准号不分节。

3.10.2 参数和偏差范围

1) 数值范围：表示范围用“~”不用“-”，五至十写成5~10；5万至10万应为5万~10万，不能写成5~10万；3×10³~8×10³可写成（3~8）×10³，但不能写成3~8×10³；2) 百分数范围：20%~30%不能写成20~30%或60%至70%，（30±5）%不能写成30±5%；3) 具有相同单位的量值范围：1.5~3.6mA不必写成1.5 mA ~3.6mA；4) 偏差范围：如（25±1）℃不能写成25±1℃；5) 长度单位的数值表示方法：每个数值后的单位不能省略。

如40mm×20mm×30mm，不能写成40×20×30mm，也不能写成40×20×30mm³。

3.10.3有效数字数的修约不能用纯数学的四舍五入法，应按以下口诀修约：

4舍6入5看右，5右有数便进1（3.7502→3.8），5右为0看左方，左为奇数要进1（3.7500→3.8），左为偶数（包括0）全舍去（3.6500→3.6，3.0500→3.0），且要一次修完毕。数值的修约应执行国家标准GB3101—93附录B的规定，其简明口诀为“4舍6入5看齐，奇进偶不进”。

3.11 图片表格

凡用文字能够说明的问题，尽量不用表和图。如用表和图，则文中不需重复其数据，只需强调或摘述其主要发现。每幅图表单占1页，集中附于文后，分别按其在正文中出现的先后次序连续编码，每幅图表应冠有图（表）题。说明性的资料应置于图（表）下方注释中，并在注释中标明图表中使用的全部非公知公用的缩写。本刊采用三线表，栏头左上角不用斜线，表身不用纵线，表中上下行数字对齐（有小数点的则以小数点对齐）。一组数字中有±号者，则±号上下对齐。表的两侧各空一格。

一篇文章中，表格应控制在3~5个，附在正文内，采用“三线式”，表格均应有简要的表题，其内容不可与文字有差异。表内不设备注栏，如有需说明的事项（如P值等），以简练文字写在表的下方，表内依次用*、△、▲、□、■号标注在相应内容的右上角。表序号一律用阿拉伯数字，分别按其在正文中出现的先后次序连续编码，并在正文中标示。即使只有1张表，也须标示“表1”。表中量的名称和单位名称应是量的名称（或其符号）在前，单位符号在后，其间加一斜线的方式表示。例如：波长/nm，表示以nm为单位的波长；长度/m或i/m，表示以m为单位的长度。量的符号用斜体。表内参数的单位应尽量相同，放在表的右上方；如各栏参数的单位不同，则放在各栏的表头内。均值±标准差，用（ $\bar{x} \pm s$ ）表示，置于表题后的括号内。表内数据要求同一指标保留的小数位数相同，一般比可准确测量的精度多1位。统计学处理结果统一用*、△、▲、□、■表示P<0.05；**、△△、▲▲、□□、■■表示P<0.01，P为大写，斜体。

3.12 参考文献

按国家标准GB7714—87《文后参考文献著录规则》，采用顺序编码制著录，仅限作者亲自阅读

过的以近5年公开发表的文献为主（论著类不少于15条，近三年的文献不少于50%；综述类不少于20条，近三年的文献不少于70%；经验交流及病例报告不少于5条，近三年的文献不少于40%），文中参考文献角码按照文中出现的次序编号，在文中相应处的右上角用阿拉伯数字加小方括号注明如[5]。参考文献中的作者，1~3名全部列出。3名以上只列前3名，后加“，等”或其他与之相应的文字。外文期刊名称用缩写，以《Index Medicus》中的格式为准；中文期刊用全名。参考文献必须由作者与其原文核对无误。将参考文献按引用先后顺序（用阿拉伯数字标出）排列于文末。

4. 注意事项

4.1 来稿请附作者工作单位、详细地址、邮编和联系电话。

4.2 本刊拥有所刊登稿件的版权，包括电子媒体。请电子邮件投稿。切勿一稿两投。因条件所限，凡投寄本刊的稿件均不退稿，请作者自留底稿。来稿一律文责自负。依照有关规定，本刊可对来稿做文字修改和删节；如不愿删改者，免投本刊。收到投稿后，三个月之内杂志社给与答复。投稿请寄电子邮箱：wcmus2020@aol.