

中医药治疗尿酸性肾病的研究进展*

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摘要: 中医药治疗尿酸性肾病(uric acid nephropathy, UAN)以祛邪扶正为总治则。在具体治疗上,单味中药通络利湿、益肾化瘀,具有专病专治的优势;自拟方健脾利湿、祛瘀化浊,更符合当地人的体质与发病特点;经典方清热活血、温补脾肾,在临床中应用更为广泛,辨证精准,效如桴鼓;中成药以祛瘀化浊补肾为治疗大法,更便于携带及推广应用;中医外治法独具特色,可疏通经络、畅通气血,达到治愈疾病的目的。但目前,对于 UAN 的中医病名、分型与治法缺乏统一标准,一些单味中药的作用机制尚未完全明确,自拟方的疗效不具有普遍性,中成药的临床疗效有待验证,经典方的应用研究较少,关于本病的辨证治法需要进一步探讨以拟定更加精准的治疗方案,故今后的研究可从以下方面努力:邀请更多的专家参与拟定更加标准化、临床化的治疗方案;在重视单味药发挥机制的同时,扩大单味中药的研究范围,重视中药自身的生长习性;自拟方与中成药样本量较小,可进一步通过数据挖掘以扩大其用途。

关键词: 尿酸性肾病; 中医药; 祛邪扶正; 分期论治; 辨证论治

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Research Overview of TCM Treatment of Uric Acid Nephropathy

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Abstract: In treatment of uric acid nephropathy (UAN) with traditional Chinese medicine, Qu Xie Fu Zheng is the general rule. In terms of specific treatment, single kind of TCM drug has the advantage of specific treatment for specific diseases by regulating collaterals and removing Dampness as well as tonifying Kidney and removing blood stasis. Newly-made prescriptions can invigorate Spleen, remove Dampness, remove blood stasis and turbid, which is more in line with local people's constitution and disease characteristics; Classical prescriptions can clear Heat and activating blood circulation, warm the Spleen and Kidney, which are more widely used in clinical practice. With correct syndrome differentiation good medical effect can be achieved. Chinese patent medicine, which functions to remove blood stasis and turbid and to tonify Kidney, can be used in treatment, being more convenient to carry and in wider application. External treatment of traditional Chinese medicine is unique, which can dredge meridians, smooth Qi and blood, and achieve the purpose of curing diseases. However, at present, there is a lack of unified standards for the name, type and treatment of UAN diseases in traditional Chinese medicine, the mechanism of action of some single traditional Chinese medicine has not been fully defined, the efficacy of self-designed prescriptions is not universal, the clinical efficacy of Chinese patent medicines needs to be verified, and there are few application studies of classical prescriptions. Further discussion on the syndrome differentiation and treatment of this disease is needed to formulate a more accurate treatment plan. Therefore, future research efforts should be made in the following aspects: inviting more experts to participate in the formulation of a more standardized and clinical treatment plan. We should not only pay attention to the mechanism of single medicine but also expand the research scope of single medicine and pay attention to the growth habit of traditional Chinese medicine. The sample size of self-designed pre-

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scription and Chinese patent medicine is small,so its use can be further expanded through data mining.

Key words:uric acid nephropathy;traditional Chinese medicine;Qu Xie Fu Zheng;treatment based on stages;syndrome differentiation

尿酸性肾病(uric acid nephropathy,UAN)也称痛风性肾病、高尿酸血症肾病,病因为体内嘌呤代谢异常,血尿酸生成过多,或肾脏排泄量降低,导致尿酸结晶沉积于远端小管或集合管管腔而引起的肾脏病变^[1-3]。病理以大量尿酸结晶沉积为特征,肾间质纤维化和尿酸结石的形成可逐渐引起慢性肾功能衰竭^[4-5]。本病前期以关节不适如红、肿、热、痛等为主要表现,随着病情的加重,逐渐表现为尿频、腰部酸痛、水肿,后期肾小球滤过率下降,最终死因多为慢性肾功能不全或尿毒症^[6-7]。随着经济条件的提高,人们的生活方式和饮食结构随之变化,肥甘厚味及糖饮料摄入的增加会增高血尿酸水平,高尿酸血症患者也呈逐年上升趋势^[8-10]。据报道,我国高尿酸血症的患病率为5.0%~23.4%。研究认为,高尿酸血症可能是慢性肾脏疾病的独立相关因素^[11],肾脏的损害程度与血尿酸增加的程度呈明显的正比例关系^[12-15]。因此,要减缓该疾病进程,早期诊断和干预非常必要,而中医治病亦强调“治未病”^[16]。本文就 UAN 的中医认识与治疗等内容综述如下。

1 UAN 的病名

中医书籍从古至今无“尿酸性肾病”这一病名,但有与其症状相关的记载:前期关节疼痛不适时,可归属于中医“痹证”“白虎历节病”“痛风”等范畴;病情逐渐加重,临床表现为尿频、尿血、腰部酸痛、小腹胀满、遗尿、水肿时,可归属于“淋证”“肾痹”“腰痛”“水肿”等范畴;后期严重时,出现恶心、呕吐则归属于“关格”“肾劳”等范畴^[17-19]。这恰与西医中慢性 UAN、急性 UAN、尿酸性尿路结石 3 种病理变化及分型相合^[20]。

2 UAN 的病因病机

2.1 古代病因病机的认识 UAN 涉及的病证较广,综合古代书籍记载,病因病机总的可概括为 3 个方面:外邪侵袭,血脉不通;经络失和,日久及肾;饮食情志,脏腑不调。风寒湿邪侵袭筋脉,血脉壅滞于关节,关节屈伸不利,形成痹证。正如《黄帝内经素

问集注》所言:“痹,闭也,血气凝涩不行也”,肾主骨,筋主屈伸,筋骨受束,复感外邪,内舍于肾,出现小腹胀满、小便遗溺、腰痛难以直立等症状;其病因病机总括为感受风寒湿邪,凝涩经络,痹阻腰府,日久伤肾,《证治汇补·痛风》载:“痛风即内经痛痹也,因气血亏损,湿痰浊血,流滞经络,注而为病。”该病与饮食关系密切,《万病回春·痛风》中有论述膏粱厚味均属热物,超过人体自身运化,即转为热邪外攻经络皮毛,内攻脏腑;《诸病源候论》也记载“热毒出于脏腑,在上手足则肿痛,在下则尿赤红”。许多病性总归本虚标实。

2.2 现代病因病机的认识 现代医家与古代医家对本病病因病机的认识有类似之处,外多以风寒湿邪为主,内与饮食劳倦情志相关。但古今社会环境变化甚多,医家也有其拓展及创新点,在病因病机上更注重抓其主要症结。众医家认为本病病位在肾,与痰湿瘀浊等病理产物紧密相关,脾肾亏虚为根本^[21-23]。张向伟等^[24]则强调浊瘀痹阻肾络是 UAN 的特有病机,贯穿疾病全程,是 UAN 有别于其他慢性肾脏病的病机特点。邱模炎教授继承赵绍琴教授学术思想和朱丹溪等古今医家论述,认为“湿热伤血”是其病因病机症结所在^[25]。王暴魁则认为,慢性 UAN 以肾气阴两虚、湿浊痰瘀痹阻肾络为主要病机,强调风邪在本病中的重要性^[26]。

3 UAN 的辨证论治

古籍中未给出具体方药,但 UAN 的治疗原则现仍广泛使用,如“寒者热之,热者寒之”“开鬼门、洁净府”“其实者,散而泻之”“凡病,若发汗、若吐、若下、若亡血、亡津液、阴阳自和者,必自愈”。

现医家遵循治疗大法,也提出了更加系统的治则,如柳红芳教授强调标本兼治、补虚泻实,扶正以温补脾肾,攻邪以清热通络化浊,继承张景岳阴阳精气命门理论,善用大剂量熟地填补肾精,对 UAN 出现的蛋白尿、血尿、血肌酐升高等症状疗效显著^[27];邱模炎提出“调补分化法”,即调畅气机,宣通三焦;补益虚损,通补兼施;分消湿热,分清泄浊;化瘀活血,凉血清热^[25];孔薇提出治疗应饮食调摄,未病先

防;固护脾肾,平药为上;截源疏流,祛湿排浊;化瘀通络,调和气血^[28]。

3.1 分期论治 UAN 有其独特的临床表现,初期病性以实为主,以因受寒湿、湿热、痰瘀或饮食等引起关节或某一部位不适为主要表现,治以祛邪为主,后期脏腑受损可出现虚证或虚实夹杂,全身症状较为明显时则标本兼治。叶景华教授将急性发作期分为痹证及淋证:寒湿痹用桂枝芍药附子汤加减;湿热痹用白虎加桂枝汤合四妙丸加减;淋证则予排石汤加减。稳定期分为5种证型:脾肾气虚证予参苓白术散加减;肝肾阴虚证用归芍地黄汤加减;气阴两虚证以参芪地黄汤加减;痰湿蕴结、瘀血内停证予桃红四物汤和三妙丸加减;阴阳俱虚证予肾衰方加减^[29]。何邦友等^[30]将该病急性期分为两种证型:风寒湿痹阻证,方用桂枝加附子汤、桂枝芍药知母汤加减;风湿热痹阻证,方用白虎汤合四妙散加减。稳定期分为4种证型:肝肾阴虚、血瘀痹阻证,方用杞菊地黄丸合桃红四物汤加减;脾肾气虚、水湿滞留证,方用自拟健脾化湿泄浊汤;脾肾阳虚、湿瘀浊阻证,方用金匱肾气丸合理中丸加减;气阴两虚、阴虚瘀滞证,方用参芪地黄汤加减。骆言等^[31]将其分为3个“脾肾气虚、湿浊聚集”阶段:无明显表现时,为上医治未病阶段,嘱患者大量饮水或加小苏打口服,中药可予补益脾肾及利水渗湿药物为主,方以参苓白术散加减;中期“湿毒浸淫(寒湿困阻、湿热不化)”阶段,以“寒湿困阻”“湿热不化”为主,饮食多以芳香化湿为主;发展到晚期“湿毒瘀血互结”阶段,以祛风湿中药联合国医大师郑新经验方“蛭芎通络胶囊”以达活血化瘀之效。

3.2 单味中药 随着研究技术的进步,中草药单剂提取物通过多靶点在降低血清尿酸、延缓肾脏病进展方面颇具前景^[32]。单味中药的研究可更精准地对准病灶,也更有利于发挥单味中药的优势。目前,仍有很多单味中药值得深入研究与挖掘,这些中草药包括本地药材如三丫叶、猫须草等,也有常见中药如土茯苓、萆薢、车前子、玉米须、牛膝、大黄等,功效多以清热通络利湿、益肾化瘀为主^[33]。土茯苓不仅不良反应小,还能改善内循环及抑制T细胞,发挥降尿酸、抗炎镇痛、保护肝肾的作用,复方土茯苓颗粒也可降低炎症因子的表达,减轻因尿酸升高造成的肾损伤^[34-36]。萆薢可以抑制高尿酸血症大鼠血清中黄嘌呤氧化酶活性,减少尿酸合成,通过降低

UAN 模型大鼠肾组织中肿瘤坏死因子、细胞间黏附因子和单核细胞趋化蛋白的表达,可延缓肾功能损伤,保护肾脏^[37-38]。萆薢、土茯苓作为治疗 UAN 的常用药对,可以增强疗效^[39-40]。胡向阳等^[41] 研究观察药食同源的岭南草药三丫苦,其叶膜分离提取物能够更好地降低原发性高尿酸血症患者血尿酸。研究显示,车前子水煎液对 UAN 大鼠的药效学指标及对肾组织半胱氨酸蛋白酶-1、Nod 样受体蛋白3和凋亡相关点样蛋白表达的影响,发现车前子对 UAN 大鼠具有较好的肾保护作用^[42-43]。玉米须中的化学成分总黄酮提取物能促进尿酸在肾脏中的排泄,在一定程度上还能改善尿酸对肾脏的损害^[44-45]。猫须草可通过降尿酸、解热、镇痛、抗炎、抗氧化、抗纤维化等可对痛风各期病症发挥治疗作用,保护肾脏,且不良反应少^[46-48]。康乐等^[49] 研究牛膝茎叶总皂苷对高尿酸血症肾病大鼠尿酸转运蛋白的影响,发现牛膝茎叶总皂苷可有效降低大鼠高尿酸血症肾病模型的血清尿酸水平,其作用机制可能与抑制尿酸盐阴离子转运体1、葡萄糖转运蛋白9对血尿酸的重吸收,促进尿酸盐阴离子转运体1分泌血尿酸入尿有关。大黄中的提取物大黄酸也能起到抗炎和肾保护作用,此外,从炎症细胞及因子的靶点治疗入手也能够减缓肾损害^[50-51]。

3.3 自拟方 较单味中药而言,自拟方是各个医家根据当地的季节特点、人群属性,在临床反复实践的过程中总结经验而得,且在临床上取得了良好的疗效,具有一定的借鉴意义。自拟方多以健脾利湿、祛瘀化浊为主。

张逸等^[52]在非布司他片的治疗基础上,联合使用加味玉肾露(黄芪35 g,枸杞子20 g,太子参20 g,白术15 g,山茱萸20 g,黄柏15 g,苍术15 g,薏苡仁20 g),能够调节痛风性肾病的血脂,保护肾脏。伍新林等^[53]自拟化湿泄浊祛瘀汤(土茯苓30 g,川萆薢30 g,苍术15 g,黄柏12 g,川牛膝12 g,生薏苡仁30 g,川木瓜20 g,五加皮15 g,土鳖虫6 g,延胡索期9 g,丹参15 g,车前草30 g)治疗湿浊瘀阻型 UAN,一定程度上能够提高患者的抗氧化应激能力。杨大伟等^[54]拟固本排浊汤(附子9 g,干姜10 g,肉桂9 g,桂枝15 g,白术15 g,茯苓15 g,泽泻15 g,车前子10 g,木瓜10 g,木香10 g,厚朴15 g,大腹皮10 g,海金沙15 g,金钱草15 g,生姜10 g,大枣10 g,丹参15 g,红花15 g,牛膝15 g)治疗脾肾亏虚、痰湿

内盛型痛风性肾病,发现本方可以降低患者的血尿酸、肌酐、尿素及24小时尿蛋白水平。黄泽灿等^[55]运用自拟益肾祛瘀泄浊汤(巴戟天15 g,桑寄生15 g,党参15 g,山药15 g,威灵仙15 g,萆薢15 g,生薏苡仁20 g,地龙10 g,土茯苓30 g,苍术10 g,黄柏10 g)治疗UAN,发现治疗组有效率明显优于对照组($P<0.05$);治疗组肌酐、尿素、24小时尿蛋白、尿酸均较对照组降低更为明显,且C反应蛋白升高程度低于对照组。李娜等^[1]运用名中医李琦教授的经验方加味忍冬藤汤(忍冬藤30 g,炒黄柏15 g,淮牛膝15 g,秦艽15 g,虎杖15 g,威灵仙15 g,川芎15 g,赤芍15 g,桂枝10 g,伸筋草15 g,土茯苓30 g,炒薏苡仁30 g,海桐皮15 g,萆薢15 g,灯盏细辛15 g,甘草5 g)治疗湿热内蕴型UAN,患者四肢沉重、关节肿痛及浮肿等症状明显减轻,且治疗组血肌酐、尿素氮、血尿酸、24小时尿蛋白定量、尿 $\beta 2$ -微球蛋白及血 $\beta 2$ -微球蛋白及肾小球滤过率等肾功能较治疗组明显改善($P<0.05$ 或 0.01)。

3.4 经典方 经典方不具有时效性,是古人在大量实践基础上智慧的结晶,独具中医特色,延续千年仍能够治今病。这些经典方剂多出自《伤寒论》《金匱要略》,以清热活血、温补脾肾为主。

岑洁等^[56]用三五独活寄生汤(苍术10 g,茯苓10 g,黄柏10 g,川牛膝15 g,泽泻10 g,肉桂3 g,独活10 g,桑寄生15 g,杜仲15 g,威灵仙15 g,土茯苓30 g,忍冬藤30 g,鸡血藤30 g,制大黄10 g)治疗肾元虚弱、痰湿痹阻型UAN,能够明显改善夜尿频多、腰酸乏力等症状,还能有效降低血尿素氮、血尿酸、尿RBP等指标。黄刚等^[57]用金匱肾气丸治疗脾肾阳证型痛风性肾病,治疗组有效率90.6%,对照组有效率65.6%,经Ridu分析,差异具有统计学意义($P<0.05$),说明治疗组疗效优于对照组。张蔚等^[58]用益肾四妙汤(党参片30 g,黄芪30 g,薏苡仁20 g,黄柏10 g,苍术15 g,牛膝12 g,当归尾10 g,赤芍12 g,川芎10 g,茜草12 g,车前子12 g,甘草片6 g)加減治疗脾肾气虚、湿浊瘀阻型痛风性肾病合并肾衰竭,治疗组有效率为89.58%,明显高于对照组的72.92% ($\chi^2=4.376, P<0.05$)。给予痛风性肾病合并肾衰竭患者益肾四妙汤加減治疗,疗效确切,可减轻肾小管损伤,改善微炎症状态及肾功能。王晨等^[59]研究发现,运用白虎加桂枝汤(知母18 g,生石膏48 g,桂枝9 g,炙甘草6 g,薏苡仁18 g,穿山

龙30 g)治疗UAN可改善肾小管损伤及肾小球系膜基质增生,减轻肾脏纤维化。陆瑶等^[60]以加味竹叶石膏汤(生石膏、薏苡仁各30 g,北沙参、土茯苓各15 g,淡竹叶、麦门冬各12 g,半夏、知母各10 g,甘草6 g)联合非布司他、强的松治疗热证的痛风性肾病,结果治疗组的疗效明显优于对照组(91.2% vs 78.4%, $P<0.05$),表明加味竹叶石膏汤联合非布司他治疗痛风性肾病疗效肯定,能够减轻炎症反应,保护肾功能。

3.5 中成药 随着当代生活方式节奏的加快,中成药因其简便、快捷、临床疗效好,较经典方、自拟方的发展更为迅速。围绕尿酸性肾病的基本病机,中成药以祛瘀化浊补肾为治疗大法。吴丽虹等^[61]用尿毒清颗粒(组方:大黄、黄芪、白术、制何首乌、川芎、丹参等)配合西医常规治疗脾肾亏虚、湿浊内阻型UAN。治疗后观察组疗效和中医症状疗效均优于对照组($P<0.05$),在生活方式干预及常规西医治疗的基础上,尿毒清颗粒能降低黄嘌呤氧化酶(xanthine oxidase, XOD),胱抑素C(Cystatin C, Cys C), $\beta 2$ -微球蛋白($\beta 2$ -microglobulin, $\beta 2$ -MG)和N-乙酰 β -D-氨基葡萄糖苷酶(β -N-Acetyl-D-glucosaminidase, NAG)水平,对肾功能具有一定的保护作用。伊世华等^[62]以“健脾补肾、祛瘀排浊”为治疗原则,研制肾康降酸颗粒(生黄芪、山药、姜黄、大黄、土茯苓、威灵仙、丹参、泽兰、地龙、白花蛇舌草、薏苡仁、青橄榄)治疗脾肾两虚、湿浊血瘀型UAN,有效率84.85%,明显优于对照组,能有效抑制XOD活性,降低血尿酸,从而有效缓解肾间质损伤,防止肾纤维化。Hu等^[63]研究发现,威草胶囊(威灵仙、草决明、金钱草、炙黄芪、生首乌、生山楂、益母草、萆薢、白术、茯苓、枸杞子、杜仲各100 g,生大黄40 g,陈皮60 g,砂仁、淫羊藿各100 g)具有与别嘌醇相似的作用,并且呈浓度依赖性对UAN大鼠发挥抗炎和肾脏保护作用,可能是通过增加自噬和NLRP3降解,为威草胶囊治疗UAN的潜在机制提供了新的思路。樊海瑞等^[64]使用痛风宁胶囊(土茯苓、泽兰、蚕砂、黄柏、大黄和金钱草等)治疗痛风性肾病,发现治疗组小鼠血清中尿酸、肌酐、血尿素氮、单核细胞趋化因子-1、肿瘤坏死因子和XOD水平明显升高($P<0.01$),肾组织匀浆上清液中环氧合酶-2活性明显升高($P<0.01$),TFN对于痛风性肾病引起的小鼠脏器病变及各生化指标异常有一定的改善作

用。胡宝丰等^[65]根据临床研究总结 UAN 的病机多责之于本虚标实,以脾肾气虚为本,湿热、痰浊、瘀血为标,研制中成药制剂菊苣酸酯清胶囊(菊苣、豨莶草、黄芪、党参、生地、土茯苓、薏苡仁、车前子、牛膝、泽兰、丹参、法半夏、陈皮)治疗脾肾气虚、湿热内蕴证 UAN,主以清热利湿、化痰祛瘀、健脾益肾,在临证中取得较好疗效。赵用等^[66]研究发现苓泽合剂(土茯苓、川黄柏、泽泻、苍术等)对痛风性肾病大鼠具有较好的肾保护作用,大鼠尿量、尿蛋白、肾系数、尿酸、肌酐、尿素氮、 β_2 -MG、CysC 及 NAG 减少,尿激酶增加,肾组织病理改变均有一定减轻,乳腺癌抵抗蛋白的表达明显增加,葡萄糖转运蛋白 9 及尿酸盐转运蛋白 1 的表达明显降低。中成药具有其独特的发展优势,将临床实践与现代科技相结合,在临床应用上有很大的潜力需要去挖掘。

3.6 中医外治 除中医内治外,尚有许多外治疗法。疾病在其发展过程“有诸内,必行诸外”,与之对应,人是统一的整体,中医外治也能够达到治愈疾病的目的,外治可达到疏通经络、畅通气血之效。

朱荣丽等^[67]通过辨证分期联合中药足浴疗法研究表明,观察组在 3~6 个月、6~12 个月及 12~18 个月不同时间段的复发率均较对照组低,且差异有统计学意义($P<0.05$),辨证分期联合中药足浴治疗慢性 UAN 疗效显著。宋万雄^[68]将 60 例痛风性肾病患者依据用药不同分为对照组和治疗组,对照组采用常规西药治疗,治疗组采用中药灌肠,结果治疗组临床有效率高于对照组,差异具有统计学意义($P<0.05$),表明中药灌肠能够明显改善患者症状,提高生活质量。杨大伟等^[69]运用针灸和放血疗法治疗脾肾亏虚、痰湿内盛型痛风性肾病,结果显示治疗组有效率为 93.3%,对照组有效率为 60%,表明针灸联合放血疗法可以降低血尿酸、肌酐、尿素及 24 h 尿蛋白水平。邵忠林^[70]将 40 例患者随机分组,对照组与治疗组均取穴单侧行间、少府、厉兑、商丘,对照组在针灸治疗的基础上联合别嘌醇片 100 mg,每日两次口服,治疗组在针灸治疗的基础上联合痹宁汤,对比得出治疗组疗效显著优于对照组,差异具有统计学意义($P<0.05$),表明针刺补泻手法联合痹宁汤可改善湿热内蕴、肝肾不足型慢性 UAN 患者的中医证候积分、血尿酸、血肌酐、血清胱抑素 C、尿素氮、24 小时尿蛋白定量、尿 β_2 微球蛋白以及疼痛 VAS 积分等指标。此外,有研究表明,

通过采用隔附子饼灸三阴交、阴陵泉,结合针刺三重穴(董氏奇穴,分别对应十四经穴的悬钟、光明、外丘三穴)对痛风性肾病也有显著疗效^[71]。

4 结语与展望

对于 UAN 病因病机的认识,古今医家有异同,但总的可概括为外邪侵袭,血脉不通;经络失和,日久及肾;饮食情志,脏腑不调,病位在肾,与肝脾联系较为密切,病性多为本虚标实。在治则上总括为祛邪扶正。在具体的治疗上,单味中药具有专病专治的优势;自拟方更符合当地人的体质与发病特点;经典方在临床中应用更为广泛,辨证精准,能够达到效如桴鼓;中成药更加方便携带与推广应用;其他中医疗法也有其自身特色,解决临床实际问题。但该病的研究仍有以下不足之处:①该病所属中医范畴甚广,其中医病名、分型与治法没有统一的标准。②一些单味中药的作用机制尚未完全明确,而中药品种甚多,研究相对较少,且中西医在中药功效的发挥方面有不同的认识。③自拟方与中成药有一定的疗效,但不具有普遍性,中成药简便,但其临床疗效仍需进一步验证,且稍逊于煎剂,经典方在该病的应用上相对较少。④上工治未病,当人体处于微恙、疾的阶段,就要提前采取措施,在该病初期阶段即重视预防,如改变生活方式等。针对以上问题,笔者提出以下展望:①本病的病名、病机及辨证治法需要更多的专家参与其中,拟定更加标准化、临床化的治疗方案;②在重视单味药发挥机制的同时,扩大单味中药的研究范围,同时更要重视中药自身的生长习性;③自拟方与中成药样本量较小,更需要进行数据挖掘扩大其用途;④借助网络优势,进行文章及视频科普宣教,强调本病早期预防的重要性及延误治疗的危害性。

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