ICS 11.020

SCM

世界中医药学会联合会
World Federation of Chinese Medicine Societies

SCM 90-2025

国际冠心病血瘀证诊断指南

Diagnostic guidelines for Blood stasis syndrome in Coronary heart disease

（草案，以最终出版稿为准）

世界中联国际组织标准
International Standard of WFCMS

2025-11-24 发布实施
Issued & implemented on November 24, 2025

目　次

前　言

请注意本文件的某些内容可能涉及专利。本文件的发布机构不承担识别专利的责任。

主要起草单位：世界中医药学会联合会心血管专业委员会。

参与起草的单位：中国中医科学院西苑医院、国家中医心血管病临床医学研究中心、中国中西医结合杂志社、首都医科大学附属北京中医医院、中山大学附属第八医院、中日友好医院。

主要起草人：史大卓、付长庚。

参与起草人（以姓氏拼音为序）：卞兆祥（中国香港）、蔡丽娜（美国）、杜健鹏、高铸烨、郭明、郭艳、何嘉琅（意大利）、龙霖梓、曲华、时莉晓、苏鑫、王培利、许家杰（美国）、徐丹苹、徐浩、杨巧宁、袁晓宁（加拿大）、张大武、赵永华（中国澳门）、赵英杰（新加坡）。

本文件的起草程序遵守了世界中医药学会联合会发布的 SCM1.1-2021《标准化工作导则第 1 部分：标准制修订与发布》。

引　言

世界卫生组织发布《2022 年全球卫生估计报告》指出，2019 年全球 73.6%的死亡归因于非传染性疾病，冠心病是主要的死亡原因，所致死亡人数占全球总死亡人数的 16%。自 2000 年以来，死亡人数增加最多的也是冠心病，2019 年达到了 890 万人。在美国，每 7 例死亡病人中就有 1 例死于冠心病，心脏病的直接和间接治疗费用超过 2000 亿美元，且该医疗负担还在不断上升。《中国心血管健康与疾病报告 2024》指出，中国冠心病患病人数可达 1139 万，年冠心病死亡人数接近 200 万。降脂、抗血小板等治疗是干预冠心病的主要手段，在改善冠心病患者预后方面起到了一定作用，但冠心病患者的残余风险仍然较高。

根据传统中医药学关于血瘀证的理论认识，采用病证结合的方法，将冠心病的主要病理环节如血栓形成、血小板活化、血管狭窄等和血瘀证联系起来，探讨冠心病发生的中医病因病机，认为冠心病无论虚实，“心脉瘀滞、不通则痛”总是其病因病机的一个重要方面。课题组率先倡导用活血化瘀方药治疗冠心病心绞痛、心肌梗死，临床疗效较既往有了明显提高，并从血液生物流变学、血小板功能、细胞生物活性因子、基因蛋白表达的分子水平揭示了活血化瘀方药治疗冠心病的作用机制，使活血化瘀成为现代中医临床治疗冠心病的主流和首选疗法。同时，首先倡导采用随机、双盲、双模拟、多中心的临床研究方法客观评价活血化瘀方药治疗冠心病的有效性和安全性，显著提高了中医药临床研究的科学水平。

冠心病血瘀证是血瘀证研究中最为活跃的领域，既往研究结果表明，冠心病血瘀证在宏观表征、理化指标、中医证候特点及证候演变规律上均具有特殊性。因此，以冠心病为切入点，开展病证结合的血瘀证诊断及疗效评价标准研究具有重要意义。根据现代流行病学及病因学研究方法，通过多中心、大样本的真实世界研究，观察冠心病血瘀证的临床特点及证候演变规律；通过文献研究构建冠心病血瘀证诊断指标条目池；通过前瞻性、多中心、大样本的病因学研究，判定诊断指标的权重，建立冠心病血瘀证诊断指标体系；通过专家咨询和诊断性试验，对冠心病血瘀证诊断指标体系进行优化；通过前瞻性、随机对照的临床研究，采用“以药测证”、“以效测证”方法对诊断标准进行临床反证；最终建立敏感、可靠、临床实用的冠心病血瘀证诊断标准。

长期以来，由于国际冠心病血瘀证诊断指南的缺失，不仅严重限制血瘀证及活血化瘀研究的发展，影响心脑血管疾病等以血瘀证为主要证型的重大疾病中药临床疗效的客观评价，也限制了活血化瘀研究的国际交流与合作。

随着中医药全球化发展，制订适应现代临床科研需求的国际冠心病血瘀证诊断指南，对指导以血瘀证为主要证候的重大疾病诊疗具有积极意义。本文件以《冠心病血瘀证诊断标准》为基础，邀请来自中国香港、中国台湾、中国澳门、韩国、美国、英国、德国、加拿大、澳大利亚、新加坡、马来西亚的 16 名专家作为指南工作组成员，对《冠心病血瘀证诊断标准》进行修改完善后，进一步广泛征求海内外专家意见研制而成，具有诊断条目简洁、涵盖面广、判断标准简单、符合临床实际、可操作性强等特点。

本文件主要适用于中西医结合临床、科研工作者和研究生使用。

国际冠心病血瘀证诊断指南

1 范围

本文件规定了冠心病血瘀证诊断的主要指标、次要指标以及辅助指标等内容。

本文件适用于冠心病血瘀证的临床实践与科研工作。

2 规范性引用文件

下列文件中的内容通过文中的规范性引用而构成本文件必不可少的条款。其中，注日期的引用文件，仅该日期对应的版本适用于本文件；不注日期的引用文件，其最新版本（包括所有的修改单）适用于本文件。

SCM 68-2021 国际血瘀证诊断指南

1986 中国中西医结合研究会活血化瘀专业委员会《血瘀证诊断标准》

2011 中国中西医结合学会活血化瘀专业委员会《血瘀证中西医结合诊疗共识》

2016 中国中西医结合学会活血化瘀专业委员会《冠心病血瘀证诊断标准》

3 术语和定义

下列术语和定义适用于本文件。

3.1

冠状动脉粥样硬化性心脏病

冠状动脉血管发生动脉粥样硬化病变而引起血管腔狭窄或阻塞，造成心肌缺血、缺氧或坏死而导致的心脏病，常被称为冠心病。

3.2

血瘀证

血液运行不畅，或血流瘀滞，或血溢脉外而停蓄于体内所引起的证候，临床以疼痛、肿块、出血、面色或唇舌紫黯或发绀、脉涩或结代为主要表现。

［来源：SCM 68-2021, 3.1］

4 诊断标准

4.1 主要指标

4.1.1 胸痛位置固定（10 分）。

4.1.2 舌质色紫或暗（10 分）。

4.1.3 舌有瘀斑、瘀点（10 分）。

4.1.4 冠状动脉造影显示至少一支冠状动脉狭窄≥75%（9 分）。

4.1.5 超声或造影显示冠状动脉血栓或心腔内附壁血栓（8 分）。

4.2 次要指标

4.2.1 胸痛夜间加重（6 分）。

4.2.2 口唇或齿龈紫暗（7 分）。

4.2.3 舌下静脉曲张或色紫暗（7 分）。

4.2.4 冠状动脉造影显示至少一支冠状动脉狭窄≥50%，但＜75%（6 分）。

4.2.5 活化部分凝血活酶时间（APTT）或凝血酶原时间（T）缩短（5 分）。

4.3 辅助指标

4.3.1 面色黧黑（2 分）。

4.3.2 脉涩（4 分）。

4.3.3 冠状动脉 CT 血管造影（CTA）或冠状动脉造影显示血管明显钙化或弥漫病变（3 分）。

4.3.4 纤维蛋白原升高（3 分）。

5 判定标准

诊断冠心病血瘀证，须满足如下 3 个指标：

a) 冠状动脉造影显示至少一支冠状动脉狭窄≥50％；

b) 冠心病血瘀证计分≥19 分可诊断为血瘀证，计分越高血瘀程度越重；

c) 须包含主要指标、次要指标中至少 1 项症状体征。

附录 A
（资料性）
指南研究过程

A.1 研究方法

A.1.1 真实世界研究

采集京津地区 9 家中医及中西医结合医院 4826 例冠心病住院病人的病史及中西医诊断信息，分析冠心病不同亚型及合并不同疾病病人的中医证候要素和证候分布特点，结果显示冠心病常见证候要素依次是血瘀、气虚、痰浊、阴虚、阳虚、气滞、血虚，其中血瘀证 3928(81.4%)，是冠心病基本的中医证型[1-2]。在此基础上，采用前瞻性队列研究设计，系统采集全国 15 家医院的 1503 稳定型冠心病病人的临床信息，并进行 12 个月随访，采用复杂网络方法挖掘分析证候演变对心血管事件的影响，结果证实血瘀证与心血管事件的发生显著相关[3-5]。因此，以血瘀证为切入点，开展冠心病血瘀证诊断标准研究，对预防心血管事件的发生具有重要临床价值。

A.1.2 文献研究

采用系统评价的方法整理古今文献，通过检索中文古籍数据库发现中医古籍中与冠心病血瘀证相关的临床表现主要包括胸满、胸痛、胸闷、心痛、怔忡、舌青、脉涩等 22 项。检索中国期刊全文数据库(CNKI)、中国生物医学文献数据库(CBM)、中文科技期刊全文数据库(VIP)、中国重要会议论文全文数据库、美国国立医学图书馆(PubMed)，以“冠心病”“血瘀证”为检索词，根据各数据库的特点采用主题词、关键词与自由词相结合的方式进行检索。英文数据库检索采用相应的译文。共检出与冠心病血瘀证相关的研究 1825 项，经反复筛选后有 74 项诊断性试验最终纳入分析，Meta 分析结果显示共有 hs-CRP、Hcy、D-二聚体等 122 项指标与冠心病血瘀证明显相关。

A.1.3 定性研究

根据文献研究和真实世界研究结果设计标准化专家咨询问卷，选择相关领域有代表性的 80 位专家，通过信函及网络调查方式完成专家咨询。结果显示：胸痛位置固定、舌色紫暗、舌体瘀斑瘀点、冠状动脉 CT 血管造影(CTA)或冠状动脉造影显示任何 1 支血管闭塞等 37 个指标的专家意见集中程度＞90％，可能作为冠心病血瘀证的主要诊断指标；胸痛呈刺痛等 27 个指标的专家意见集中程度位于 80%～90％，可能作为冠心病血瘀证的次要诊断指标，为冠心病血瘀证诊断标准的建立提供依据[6-7]。

A.1.4 横断面研究

对 15 家中心 4274 例经冠状动脉造影确诊至少 1 支冠状动脉血管狭窄≥50%或既往有陈旧性心肌梗死病史的冠心病病人进行流行病学调查，参照 1986 年血瘀证诊断标准，将病人分为血瘀证和非血瘀证两组，其中血瘀证组 3257 例，非血瘀证组 1017 例。通过单因素分析、Logisitic 回归分析和逐步判别分析对诊断指标进行反复筛选和优化，根据病史、症状、

体征、舌象、脉象、理化指标等不同变量的 OR 值判定其权重，结合临床实际情况，制订冠心病血瘀证诊断标准（草案）[8]。

A.1.5 病例对照研究

选择 450 例经冠状动脉造影确诊的冠心病患者为研究对象，将 4 名工作 5 年以上的心内科副主任医师分为相互独立的 A、B 两组，每组两名医师。A 组以 1986 年的血瘀证诊断标准为诊断依据，B 组以冠心病血瘀证诊断标准（草案）为诊断依据，分别在两个诊室，根据病历记录情况，相互独立对 450 例冠心病病人进行辨证，辨证结果有异议时，请第 3 名副主任医师进行辨证，3 名参与辨证的医师中有 2 名结果相同即可确立诊断。根据辨证结果计算冠心病血瘀证诊断标准（草案）的敏感度为 94.36%，特异度为 89.38%，准确度为 93.11%，阳性似然比为 8.89，证实冠心病血瘀证诊断标准（草案）诊断准确可靠，具有临床实用性[9]。

A.1.6 德尔菲法

遵循权威性、代表性与地域性相结合的原则，采用德尔菲法对全国 24 个省、70 所临床、教学及科研机构的 110 位具有高级职称并从事相关领域工作 10 年以上的专家进行两轮问卷咨询。结果显示两轮咨询的专家积极系数分别为 99.1%和 97.2%，专家权威程度 0.92，专家对冠心病血瘀证诊断标准（草案）的认可度为 99.1%，两轮专家咨询的 Kendall 协调系数为 0.664 和 0.849。根据专家咨询结果计算各项指标的权重系数，进而优化各项指标的赋分[10]。

A.1.7 病因学研究方法

选择全国 10 家医院就诊的经冠状动脉造影确诊的冠心病患者 3081 例，依据专家咨询法优化后的冠心病血瘀证诊断标准对病人进行冠心病血瘀证积分，绘制 ROC 曲线，选择 Youden 指数最大点对应的积分作为诊断界点，确定冠心病血瘀证诊断界值，最终建立冠心病血瘀证诊断标准[11-12]。

A.2 标准证据

A.2.1 主要指标

A.2.1.1 胸痛位置固定

中医学认为血瘀证所导致疼痛性质主要为固定性疼痛，包括疼痛位置固定、诱发因素固定、疼痛性质固定、缓解方式固定，冠心病血瘀证可见“胸刺痛”“背刺痛”等症状，活血化瘀中药对改善固定性疼痛具有良好疗效。

A.2.1.2 舌质紫或暗

舌质紫暗是瘀血舌象的重要特点。从现代医学角度来看，瘀血舌象是血液流变性异常改变至一定程度而导致舌微循环障碍的结果。

A.2.1.3 舌有瘀斑、瘀点

舌有瘀斑、瘀点，舌尖微循环障碍，黏膜固有层中点状出血，以及各种刺激引起的黑色素沉积是舌上瘀斑、瘀点发生的病理基础。

A.2.1.4 冠状动脉造影显示至少一支冠状动脉狭窄≥75%

冠心病血瘀证与冠脉病变复杂程度有一定相关性，血瘀程度轻重是冠脉病变严重程度的重要影响因素。Meta 分析显示，冠心病血瘀证患者比非血瘀证患者更易出现多支病变、75%以上狭窄和更高的 Gensini 积分，活血化瘀对降低 PCI 术后再狭窄率和再狭窄程度具有积极作用[13]。

A.2.1.5 超声或造影显示冠状动脉血栓或心腔内附壁血栓

冠心病血瘀证是指瘀血内阻，血行不畅，与现代医学的血栓形成、梗塞表现相同，血行不畅进而可导致脏器缺血，活血化瘀可以防止血栓形成，并对相关疾病具有良好疗效。

A.2.2 次要指标

A.2.2.1 胸痛夜间加重

疼痛夜间加重是中医学中血瘀证的重点体征，经活血化瘀治疗后发作频率、发作程度可明显改善。

A.2.2.2 口唇或齿龈紫暗

冠心病血瘀证患者口唇、肢端紫绀为血中脱氧血红蛋白增多所致，经活血化瘀治疗后，冠心病血瘀证患者面部可视光血氧饱和度明显提高。

A.2.2.3 舌下静脉曲张或色紫暗

血瘀证患者常存在静脉曲张现象，舌下静脉曲张或色紫暗，经活血化瘀治疗后常可获效。

A.2.2.4 冠状动脉造影显示至少一支冠状动脉狭窄≥50%，但＜75%

现有研究显示，冠状动脉血管狭窄程度越重，血瘀证候积分值越大，血瘀程度越重[14]。

A.2.2.5 活化部分凝血活酶时间（APTT）或凝血酶原时间（PT）缩短

血流变指标、凝血指标等在不同血瘀证分型中能够提供实验依据，提高血瘀证诊断分型的客观性。活血化瘀可改善血液流变性、凝血、纤溶、微循环等理化指标，可显著延长 PT、APTT 时间，降低全血黏度，减少血栓的生成[15]。

A.2.3 辅助指标

A.2.3.1 面色黧黑

古代医籍认为面色黧黑是血瘀证较为重要的体征，但考虑个体存在差异，故将该条列在辅助指标中[16]。

A.2.3.2 脉涩

冠心病血瘀证患者脉涩，血液流变学各项指标明显升高，血液呈高粘状态，揭示脉涩与血液流变具有一定的关系。根据中医传统文献，脉涩与血瘀关系密切，但考虑到脉象的确定有一定主观性，故将该条列在辅助指标中[17]。

A.2.3.3 冠状动脉 CTA 或冠状动脉造影显示血管明显钙化或弥漫病变

影像学检查提示冠状动脉血管狭窄与冠心病血瘀证密切相关，但由于狭窄程度较轻，故列为辅助标准。

A.2.3.4 纤维蛋白原升高

一项涉及 13 项研究 1073 人的 meta 分析显示：西药基础上加用活血化瘀中药能够降低冠心病血瘀证患者纤维蛋白原水平[18]。

A.3 临床研究

A.3.1 诊断效能比较

为证实新建的冠心病血瘀证诊断标准与既往标准的比较优势，本研究分别选择 1986 年“血瘀证诊断标准”“冠心病血瘀证诊断标准（草案）”、新建的“冠心病血瘀证诊断标准”为试验标准，以综合诊断结果为参考标准，由甲、乙两名专家分别以上述 3 个试验标准为依据，通过回顾性病例研究，对 3081 例冠心病患者进行辨证诊断，进而比较 3 个诊断标准的敏感度、特异度、诊断比值比和阳性似然比，结果证实新建的“冠心病血瘀证诊断标准”较既往相关标准具有更高的诊断价值[19]。

A.3.2 相关性分析

为研究新建冠心病血瘀证诊断标准与冠状动脉病变程度的相关性，本研究选取 2011 年 3 月—2021 年 6 月于首都医科大学附属安贞医院经冠状动脉造影检查确诊且未经血运重建干预的冠心病患者 209 例，进行临床观察。将每例病人依据“冠心病血瘀证诊断标准”计算冠心病血瘀证计分，同时根据冠状动脉造影结果进行 Gensini 评分。结果显示冠心病血瘀证计分与 Gensini 评分明显呈正相关（Pearson 相关系数为 0.72，P＝0.0054）。由此证实冠心病血瘀证计分可反映冠状动脉病变的严重程度[20]。

A.3.3 真实性检验

采用多中心、随机、双盲、安慰剂对照的研究方法，选取 4 家医院就诊的根据冠心病血瘀证诊断标准辨证为冠心病血瘀证的病人 460 例，治疗组在西药常规治疗基础上加服冠心丹参滴丸，对照组在西药常规治疗基础上加服同样剂量冠心丹参滴丸模拟剂，“以药测证”，对冠心病血瘀证诊断标准进行临床验证。结果显示：经药物治疗后两组冠心病血瘀证总积分较治疗前均明显降低，但与对照组比较，治疗组冠心病血瘀证总积分降低更明显，差异有统计学意义(P＜0.01)。与治疗前相比，治疗组冠心病血瘀证诊断标准的主要指标、次要指标、辅助指标对应的积分均显著降低(P＜0.05)。由此证明冠心病血瘀证诊断标准及其主要指标、次要指标、辅助指标均可反映血瘀证轻重程度的变化和活血化瘀药物的治疗效果[21]。

为了进一步评价冠心病血瘀证诊断标准对血瘀证诊断的敏感性，本研究将冠心病血瘀证

诊断标准与 1986 年的“血瘀证诊断标准”和“冠心病血瘀证诊断标准（草案）”进行比较。在双盲情况下对每例病人分别依据 1986 年的“血瘀证诊断标准”计算血瘀证积分，依据“冠心病血瘀证诊断标准（草案）”计算冠心病血瘀证草案积分，依据“冠心病血瘀证诊断标准”计算冠心病血瘀证积分，试验前、试验结束时各评分 1 次。分析比较 3 个诊断标准的计分减少率。结果显示冠心病血瘀证积分较 1986 年“血瘀证诊断标准”积分和“冠心病血瘀证诊断标准（草案）”积分减少率更大(P＜0.05)。由此证实冠心病血瘀证诊断标准不仅具有良好的临床实用性，且较既往标准更敏感，可灵敏反映血瘀证轻重程度变化[22]。

参 考 文 献

[1]付长庚,高铸烨,陈静,等.京津地区冠心病证候-治法-方药的现况调查[J].中国实验方剂学杂志,2010,16(12):176-179.

[2]时莉晓,高铸烨,杨巧宁,等.冠心病主要危险因素与血瘀证的相关性研究[J].中西医结合心脑血管病杂志,2014,12(06):646-648.

[3]高铸烨,张京春,徐浩,等.用复杂网络挖掘分析冠心病证候-治法-中药关系[J].中西医结合学报,2010,8(03):238-243.

[4]曲丹,高铸烨,徐浩,等.稳定期冠心病患者中医证候演变规律的研究[J].中西医结合心脑血管病杂志,2014,12(08):905-907.

[5]杨巧宁,谷丰,高铸烨,等.介入治疗后 ACS 患者中医证候要素分布特征的现况调查[J].中国中医急症,2014,23(01):6-8.

[6]付长庚,高铸烨,史大卓,等.冠心病血瘀证辨证标准的专家咨询研究[J].辽宁中医杂志,2013,40(06):1080-1082.

[7]罗静,付长庚,徐浩.定性访谈法在名老中医传承研究中的应用:思路与体会[J].中国中西医结合杂志,2015,35(04):492-496.

[8]付长庚,高铸烨,王培利,等.冠心病血瘀证诊断标准研究[J].中国中西医结合杂志,2012,32(09):1285-1286.

[9]付长庚,高铸烨,杨巧宁,等.冠心病血瘀证病证结合诊断标准的相关研究[J].中西医结合心脑血管病杂志,2018,16(11):1473-1475.

[10]时莉晓.冠心病血瘀证诊断标准的优化研究[D].中国中医科学院,2014.

[11]中国中西医结合学会活血化瘀专业委员会,陈可冀,史大卓,等.冠心病血瘀证诊断标准[J].中国中西医结合杂志,2016,36(10):1162.

[12]Diagnostic Criterion of Blood Stasis Syndrome for Coronary Heart Disease[J].Chinese Journal of Integrative Medicine,2016,22(11):803-804.

[13]鹿小燕,史大卓,徐浩,等.芎芍胶囊干预冠心病介入治疗后再狭窄的研究[J].中国中西医结合杂志,2006,(01):13-17.

[14]马晓昌,尹太英,陈可冀,等.冠心病中医辨证分型与冠状动脉造影所见相关性比较研究[J].中国中西医结合杂志,2001,(09):654-656.

张长军,陶庆春.临床相关检验指标在血瘀证辨证分型中的应用[J].国际检验医学杂志,2015,36(12):1741-1743.

[16]韦薇,徐凤芹,魏巍,等.德尔菲法获取气滞血瘀证诊断指标的临床研究[J].中西医结合心脑血管病杂志,2012,10(04):388-389.

[17]姜承贤,权隆芳,徐凤芹.德尔菲法确定血瘀证证候特征要素权重系数的研究[J].中西医结合心脑血管病杂志,2010,8(04):385-387.

[18]李佳鑫,李俊峡,苏叶,等.补阳还五汤加减联合常规西药治疗气虚血瘀型冠心病系统评价[J].中国循证心血管医学杂志,2020,12(09):1043-1046.

[19]苏鑫.冠心病血瘀证诊断标准的临床评价研究[D].中国中医科学院,2013.

[20]苏鑫,高铸烨,张庆翔,等. 未经血运重建的冠心病 Gensini 评分与血瘀证的相关性研究 [J]. 中西医结合心脑血管病杂志, 2013, 11 (02): 129-130.

[21]杨巧宁,谷丰,高铸烨,等.冠心丹参滴丸治疗冠心病随机对照试验的系统评价[J].中国实验方剂学杂志,2014,20(16):218-224.DOI:10.13422/j.cnki.syfjx.2014160218.

[22]曲华,郭明,柴华,等.冠心丹参滴丸对慢性稳定型心绞痛血瘀证患者血瘀证计分及血清相关黏附因子水平的影响[J].中医杂志,2017,58(05):394-397.

Foreword

Please note that some of the contents of this document may involve patents. The issuing organization of this document is not responsible for identifying patents.

Main drafting organization: Cardiovascular Disease Committee of the World Federation of Societies of Traditional Chinese Medicine (TCM).

Participating drafting organizations: Xiyuan Hospital of China Academy of Chinese Medical Sciences, National Clinical Research Center for Chinese Medicine Cardiology, Chinese Journal of Integrative Medicine, Beijing Hospital of Traditional Chinese Medicine Affiliated to Capital Medical University, The Eighth Affiliated Hospital of Sun Yat-sen University, China-Japan Friendship Hospital.

Main authors: 史大卓（Dazhuo Shi），付长庚（Changgeng Fu）.

Co-authors（Alphabetized by surname）：卞兆祥（Zhaixiang Bian, Hong Kong China），蔡丽娜（Lina Cai，U.S），杜健鹏（Jianpeng Du），高铸烨（Zhuye Gao），郭明（Ming Guo），郭艳（Yan Guo），何嘉琅（Jiajia Lang, Italy），龙霖梓（Linzi Long），曲华（Hua Qu），时莉晓（Lixiao Shi），苏鑫（Xin Su），王培利（Peili Wang），徐丹苹（Danping Xu），徐浩（Hao Xu），许家杰（Jiajie Xu, U.S），杨巧宁（Qiaoning Yang），袁晓宁（Xiaoning Yuan, Canada），张大武（Dawu Zhang），赵英杰（Yingjie Zhao, Singapore），赵永华（Yonghua Zhao, Macau China）.

The drafting process of this document follows the SCM 1.1-2021 *Directives for Standardization-Part 1: Procedures or Standard Development, Revision and Publication*, issued by the World Federation of Chinese Medicine Societies.

Introduction

The World Health Organization's ***2022 Global Health Estimates Report*** points out that 73.6% of global deaths in 2019 were attributed to non-communicable diseases, with coronary heart disease (CHD) being the leading cause accounted for 16% of all deaths globally. In the United States, approximately one in seven deaths are attributed to coronary heart disease (CHD), and the direct and indirect costs for treating CHD exceed $200 billion, with this medical burden continuing to rise. The 2024 Report of China Cardiovascular Health and Disease indicates that the number of CHD patients in China reached 11.39 million, with annual CHD deaths 2 million. Current treatments, such as lipid-lowering and antiplatelet therapies are the primary treatment approaches for preventing and managing CHD. However, the residual risk of cardiovascular events remains high.

Based on the theory of blood stasis syndrome (BSS) in Traditional Chinese medicine (TCM), the main pathological process of CHD, such as thrombosis, platelet activation, and vascular stenosis, are relative to BSS. Regardless of deficiency *("Xu")* or excess *("Shi")* in CHD, "stagnation of heart vessels, and pain due to obstruction" is always important etiology and pathogenesis. Our research team firstly advocated the use of blood-activating and stasis-resolving (BASR) prescriptions for treating angina pectoris and myocardial infarction in CHD, which resulted in a significant improvement in clinical efficacy compared to previous treatments. Moreover, the mechanisms of BASR prescriptions were elucidated from the molecular levels of blood rheology, platelet function and cellular bioactive factors, therefore BASR was the main therapy for CHD in TCM clinical practice. Meanwhile, our research team was the first to use randomized, double-blind, double-dummy, multi-center clinical study to evaluate the efficacy and safety of BASR prescriptions in treating CHD, and significantly enhanced the scientific level of clinical research in TCM.

BSS of CHD is the most active field in BSS research. Previous studies have shown that BSS in CHD has particularities in clinical manifestations, physical and chemical indicators, TCM syndrome characteristics, and syndrome evolution. Therefore, studying on the diagnosis and efficacy evaluation criterion of BSS of CHD based on the theory of disease-syndrome combination is of great significance. Using modern epidemiological and etiological research approaches in multi-center, large-sample real-world studies, the clinical characteristics and syndrome evolution rules of BSS in CHD were observed; a pool of diagnostic

indicators for BSS in CHD was constructed through literature research; the weight of diagnostic indicators was determined through prospective, multi-center, large-sample etiological studies to establish a diagnostic indicator system for BSS in CHD; the diagnostic indicator system for BSS in CHD was optimized through expert consultation and diagnostic tests; and the diagnostic criteria were clinically validated using the methods of "verifying syndrome by drug efficacy" and "verifying syndrome by therapeutic effectiveness" in prospective, randomized controlled clinical studies. Finally, a sensitive, reliable, and clinically practical diagnostic standard for BSS in CHD was established.

Because lack of international diagnostic guidelines for BSS in CHD, the development of BSS and BASR research has been not only severely restricted and which affected the objective evaluation of clinical efficacy of TCM for many diseases with BSS as the main syndrome (such as cardiovascular or cerebrovascular diseases), but the international cooperation in BASR research has also been limited.

With the globalization of TCM, formulating international diagnostic guidelines for BSS in CHD that meet the needs of modern clinical research is of great significance for diagnosis and treatment of the diseases with BSS.

There were 16 experts from Hong Kong (China), Taiwan (China), Macao (China), South Korea, the United States, the United Kingdom, Germany, Canada, Australia, Singapore, and Malaysia invited as members of the guideline force group. We revise and improve the Diagnostic Criterion for CHD with Blood Stasis Syndrome according to the draft of Diagnostic Criterion for CHD with Blood Stasis Syndrome. We extensively solicited opinions from experts at home and abroad for reaching a consensus and developed this criterion. It is characterized by concise diagnostic items, wide coverage, simple judgment, conformity to clinical practice.

This document is mainly applicable to integrative medicine clinicians, researchers, and graduate students.

Diagnostic guidelines for Blood stasis syndrome in Coronary heart disease

1 Scope

This document specifies the main indicators, secondary indicators, and auxiliary indicators for the diagnosis of BSS in CHD.

This document is applicable to clinical practice and scientific research of BSS in CHD.

2 Normative references

The contents of the following documents constitute indispensable provisions of this document by means of normative references in the text. Where a document is cited with a date, only the version corresponding to that date applies to this document; where a document is cited without a date, the latest version (including all change orders) applies to this document.

1986, China Society of Integrated Chinese and Western Medicine releases *Diagnostic standards for blood stasis syndrome*

2011, Chinese Society of Integrative Medicine Professional Committee on Activating Blood Stasis issued the Consensus on *Integrative Diagnosis and Treatment of Blood Stasis Evidence*.

2016, Chinese Society of Integrative Chinese and Western Medicine Professional Committee on Activating Blood Stasis issued *the Diagnostic Criteria for Coronary Heart Disease of Blood Stasis Syndrome*

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Coronary heart disease

Heart disease caused by atherosclerotic lesions in coronary arteries, leading to vascular stenosis or occlusion, resulting in myocardial ischemia, hypoxia, or necrosis, is referred to as CHD.

3.2

Blood stasis certificate

Syndrome caused by poor blood circulation, blood stasis, or extravasation of blood outside the vessels and stagnation in the body, clinically characterized by pain, lumps, bleeding, purple or dark complexion or lips/tongue, and astringent or irregular pulse.

[Source: SCM 68-2021, 3.1]

4 Diagnostic Criteria

4.1 Key Indicators

4.1.1 Fixed location of chest pain (10 points).
4.1.2 Purple or dark tongue (10 points).
4.1.3 Ecchymoses or petechiae on the tongue (10 points).
4.1.4 At least one coronary artery with stenosis ≥ 75% identified by coronary angiography (9 points).
4.1.5 Coronary artery thrombosis or intracardiac mural thrombosis identified by ultrasound or angiography (8 points).

4.2 Minor index

4.2.1 Chest pain worsened at night (6 points).
4.2.2 Purple or dark lips or gums (7 points).
4.2.3 Varicose or purple/dark sublingual veins (7 points).
4.2.4 At least one coronary artery with stenosis ≥ 50% but < 75% identified by coronary angiography (6 points).
4.2.5 Shortened activated partial thromboplastin time (APTT) or prothrombin time (PT) (5 points).

4.3 Auxiliary index

4.3.1 Darkish or black complexion (2 points).
4.3.2 Astringent pulse (4 points).
4.3.3 Significant vascular calcification or diffuse lesions identified by coronary computed tomography angiography (CTA) or coronary angiography (3 points).
4.3.4 Elevated fibrinogen (3 points).

5 Judgment criterion

Meets diagnostic criteria for coronary heart disease, and Scientific research needs to satisfy:

a) Coronary angiography showing Stenosis ≥50% in at least one coronary artery .

b) Blood stasis syndrome for coronary heart disease can be diagnosed with a score of ≥19, and the degree of blood stasis syndrome for coronary heart disease can be evaluated by the level of the score;

c） The diagnosis of coronary heart disease in blood stasis syndrome must include at least 1 macro-index among the primary and secondary index, and simple biochemical indicators cannot be diagnosed.

ANNEX A

（Normative）

Guide to the research process

A.1 Research Methodology

A.1.2 Real World Research

Medical history and TCM-WM diagnostic information of 4,826 hospitalized CHD patients from 9 TCM or integrative medicine hospitals in Beijing and Tianjin were collected to analyze the TCM syndrome items and syndrome distribution characteristics of CHD patients with different subtypes and comorbidities. The results showed that the common syndrome items of CHD were blood stasis, qi deficiency, phlegm turbidity, yin deficiency, yang deficiency, qi stagnation, and blood deficiency in sequence, among which, BSS accounted for 3,928 cases (81.4%), being the essential TCM syndrome of CHD [1-2]. Then, a prospective cohort study was designed to systematically collect clinical information of 1,503 patients with stable CHD from 15 hospitals nationwide, followed by a 12-month follow-up. Complex network methods were used to explore the impact of syndrome evolution on cardiovascular events, and the results confirmed that BSS was significantly associated with the occurrence of cardiovascular events [3-5]. Therefore, carrying out research on the diagnostic criterion for BSS in CHD is of great clinical value in preventing cardiovascular events.

A.1.1 Literature Research

Literatures were collated using systematic review methods. Through searching Chinese ancient literature databases, we have found that the clinical manifestations related to BSS in CHD mainly include chest fullness, chest pain, chest tightness, heart pain, palpitations, purple/dark tongue, and astringent pulse, totaling 22 items. Chinese Journal Full-text Database (CNKI), Chinese Biomedical Literature Database (CBM), Chinese Science and Technology Journal Full-text Database (VIP), Chinese Important Conference Papers Full-text Database, and the US National Library of Medicine (PubMed) were searched using "coronary heart disease" and "blood stasis syndrome" as keywords, combining subject terms, key words, and free words according to the characteristics of each database. A total of 1,825 studies related to BSS in CHD were retrieved, and 74 diagnostic tests were finally included in this study after repeated screening, and meta-analysis results showed that 122 indicators, such as hs-CRP, Hcy, and D-dimer, etc., were significantly associated with BSS in CHD.

A.1.3 Qualitative research

A standardized expert consultation questionnaire was designed based on literature research and real-world study results. 80 representative experts in related fields were selected to complete the expert consultation through correspondence and online surveys. The results showed that 37 indicators, such as fixed location of chest pain, purple/dark tongue color, ecchymoses/petechiae on the tongue, and coronary CTA or angiography showing occlusion of any one vessel, etc., had an expert opinion concentration > 90%, which could be taken as main diagnostic indicators for BSS in CHD; 27 indicators, such as fixed chest pain, had an expert opinion concentration of 80%-90%, which could be taken as secondary diagnostic indicators. Combining main and secondary indicators provide a basis for establishing the diagnostic criteria for BSS in CHD [6-7].

A.1.4 Cross-sectional study

An epidemiological survey was conducted on 4,274 CHD patients confirmed by coronary angiography with at least one coronary artery stenosis ≥ 50% or a history of myocardial infarction from 15 centers. Patients were divided into BSS group and non-BSS group according to the 1986 BSS diagnostic criterion, with 3,257 cases in the BSS group and 1,017 cases in the non-BSS group. Diagnostic indicators were repeatedly screened and optimized through univariate analysis, Logistic regression analysis, and stepwise discriminant analysis. The weight of each indicator, such as medical history, symptoms, signs, tongue signs, pulse conditions, and physical and chemical indicators, was determined according to the OR values, and a draft diagnostic criterion for BSS in CHD was formulated in combination with clinical practice [8].

A.1.5 Case-Control Study

A study was conducted involving 450 patients CHD confirmed by coronary angiography. Four chief physicians with over five years of clinical experience in cardiology were divided into two mutually independent groups (Group A and Group B), with two physicians per group. Group A used the *"Diagnostic Criteria for Blood Stasis Syndrome (1986)"* as the diagnostic reference, while Group B used the *"Draft Diagnostic Criteria for BSS in CHD"*. Working in separate clinics, the physicians in each group independently performed syndrome differentiation for all 450 CHD patients based on their medical records. In cases of disagreement between the diagnoses from two groups, a third chief physician performed an independent syndrome differentiation. The final diagnosis was established when at least two of the three physicians' assessments agreed. Based on the

differentiation results, the sensitivity, specificity, accuracy, and positive likelihood ratio of the "*Draft Diagnostic Criteria for BSS in CHD"* were calculated as 94.36%, 89.38%, 93.11%, and 8.89, respectively, indicating that the *"Draft Diagnostic Criteria for BSS in CHD"* is accurate, reliable, and clinically practical[9].

A.1.6 Delphi Method

According to the principles of authoritativeness, representativeness, and geographical coverage, the Delphi method was employed to conduct two rounds of questionnaire consultations with 110 experts from 70 clinical, academic, and research institutions across 24 provinces nationwide. All participating experts have full professor titles and over ten years of experience in relevant fields. The expert response rates for the two consultation rounds were 99.1% and 97.2%, respectively. The expert authority coefficient was 0.92. The approval rate of experts for the *"Draft Diagnostic Criteria for BSS in CHD"* was 99.1%. Kendall's coefficient of concordance for the two rounds was 0.664 and 0.849, respectively. Based on the consultation results, the weight coefficients were calculated, and the corresponding scoring system was then optimized[10].

A.1.7 Diagnostic Test Methodology

A total of 3,081 patients with CHD, confirmed by coronary angiography, were recruited from 10 hospitals nationwide. Patients were evaluated using the diagnostic criterion for BSS in CHD, which had been optimized via the expert consultation method, and assigned a BSS in CHD score. A ROC curve was plotted. The score corresponding to the maximum Youden index was selected as the optimal diagnostic cutoff point. This procedure formally established the diagnostic threshold for BSS in CHD, culminating in the development of the diagnostic criterion[11-12].

A.2 Evidence for the Criterion

A.2.1 Primary Indicators

A.2.1.1 Chest pain localized to a fixed area

TCM believes that the pain associated with BSS is primarily characterized by fixed attributes, including a fixed location, fixed precipitating factors, fixed nature, and fixed relief patterns. In BSS in CHD, symptoms such as "fixed chest pain" and "fixed back pain" are commonly observed. Blood-activating and stasis-resolving Chinese herbal medicine demonstrates a good efficacy in alleviating fixed-pattern pain.

A.2.1.2 Purple or dark tongue

A purple or dusky tongue is a key characteristic of the tongue manifestation in BSS. From a modern medical perspective, this tongue sign results from impaired tongue microcirculation caused by abnormalities in blood rheology.

A.2.1.3 Petechiae or ecchymosis on the tongue

The pathological basis for petechiae or ecchymosis on the tongue includes microcirculatory disturbances at the tongue tip, punctate hemorrhages within the lamina propria of the mucosa, and melanin deposition induced by various stimuli.

A.2.1.4 Coronary angiography showing stenosis ≥75% at least one coronary artery

BSS in CHD exhibits a certain correlation with the complexity of coronary artery lesions. The severity of blood stasis is an important factor influencing the severity of coronary artery disease. Meta-analysis indicates that patients with CHD and BSS are more likely to present with multi-vessel disease, stenosis ≥75%, and higher Gensini scores compared to non-BSS patients. Blood-activating and stasis-resolving therapy plays a positive role in reducing the severity of restenosis after PCI[13].

A.2.1.5 Coronary thrombus or intracavitary mural thrombus detected by echocardiography or coronary angiography

BSS in CHD refers to the internal obstruction by static blood and impeded blood flow, which corresponds to thrombosis and infarction in modern medicine. Impaired blood flow can lead to organ ischemia. Blood-activating and stasis-resolving therapy with Chinese herbs has a good curative effect on thrombosis and its relative diseases.

A.2.2 Secondary Indicators

A.2.2.1 Chest pain worsened at night

Nocturnal aggravation of chest pain is a key sign of BSS in TCM. After blood-activating and stasis-resolving treatment, the frequency and severity of chest pain episodes can be significantly improved.

A.2.2.2 Dusky lips or gingiva

Cyanosis of the lips and acral regions in CHD patients with BSS is caused by increased deoxyhemoglobin in the blood. Following blood-activating and

stasis-resolving treatment, the oxygen saturation level of facial visualization can be significantly improved in patients.

A.2.2.3 Sublingual varices or dusky discoloration

CHD Patients with BSS often exhibit venous varicosities, including sublingual varices or dusky discoloration. These signs frequently disappear after blood-activating and stasis-resolving treatment.

A.2.2.4 Coronary angiography revealing stenosis ≥50% but <75% at least one coronary artery

Current research indicates that the severity of coronary artery stenosis correlates positively with the BSS syndrome score and the degree of blood stasis[14].

A.2.2.5 Shortened activated partial thromboplastin time (APTT) or prothrombin time (PT)

Hemorrheological and coagulation parameters provide a diagnostic reference for differentiating subtypes of BSS, enhancing the objectivity of BSS diagnosis and classification. Blood-activating and stasis-resolving therapy improves hemorheological properties and microcirculation. It also significantly prolongs PT and APTT, and decreases thrombus formation[15].

A.2.3 Auxiliary Indicators

A.2.3.1 Sallow and dark complexion

Ancient medical books had considered that a sallow and dark complexion are the relatively important sign of BSS. However, due to individual variations, it is categorized as an auxiliary indicator[16].

A.2.3.2 Astringent pulse

According to TCM literature, the astringent pulse is closely associated with BSS. The CHD patients with BSS often present with an astringent pulse. The patients with the elevated hemorheological parameters and the hyperviscous blood state often present with the astringent pulse. Nevertheless, given the subjectivity of pulse diagnosis, it is classified as an auxiliary indicator[17].

A.2.3.3 Vascular calcification or diffuse lesions in computed tomography coronary angiography or coronary angiography

Imaging studies demonstrate an association between coronary artery stenosis and BSS in CHD. However, since the degree of vascular stenosis is

relatively mild, it is classified as an auxiliary indicator.

A.2.3.4 Elevated fibrinogen level

A meta-analysis encompassing 13 studies and 1,073 participants demonstrated that adding blood-activating and stasis-resolving Chinese herbal medicine to conventional Western medicine treatment significantly reduced fibrinogen levels in CHD patients with BSS[18]. However, due to not being routinely tested in clinical practice, it is classified as an auxiliary indicator.

A.3 Clinical research

A.3.1 Comparison of diagnostic performance

To validate the advantages of the newly established International Diagnostic Guideline for BSS in CHD over previous criteria, two experts (expert A and expert B) independently conducted syndrome differentiation for 3,081 CHD patients to compare the sensitivity, specificity, diagnostic odds ratio (DOR), and positive likelihood ratio (LR+) of the *1986' Diagnostic Criteria for Blood Stasis Syndrome,* the *Draft Diagnostic Criterion for BSS in CHD*, and *the newly established 'Diagnostic Criterion for BSS in CHD*. The results demonstrated that the newly established diagnostic criterion has a significantly higher diagnostic performance over the two previous criteria [19]."

A.3.2 Correlation analysis

To investigate the correlation between the newly established “International Guideline” score and the severity of coronary artery disease, this study enrolled 209 CHD patients confirmed by coronary angiography at Beijing Anzhen Hospital, Capital Medical University, between March 2011 and June 2021, who had not undergone prior revascularization. Each patient was scored according to the newly established “International Guideline” for BSS in CHD. The Gensini scores were calculated based on coronary angiography. The results showed a significant positive correlation between the BSS in CHD score and the Gensini score (Pearson correlation coefficient r = 0.72, *P*= 0.0054), indicating that the newly established *“International Guideline”* score effectively reflects the severity of coronary artery disease[20].

A.3.3 Validation study

A multi-center, randomized, double-blind, placebo-controlled study enrolled 460 patients diagnosed with CHD and BSS according to the *“International Guidelines”* from four hospitals was conducted to validate the diagnostic

performance of *"International Guidelines"*. The treatment group received conventional Western medicine therapy plus Guanxin Danshen Dripping Pills, while the control group received conventional Western medicine therapy plus matching Guanxin Danshen Dripping Pills placebo (testing syndrome through therapeutic effects). The results showed that after treatment, the total BSS in CHD scores significantly decreased from baseline in both groups. However, the reduction in the total score was significantly greater in the treatment group than the control group ($P < 0.01$). Furthermore, compared to baseline, the scores of the primary, secondary, and auxiliary indicators of the *"International Guideline"* decreased significantly in the treatment group ($P< 0.05$). These results demonstrate that the "*International Guideline*" and its indicators (primary, secondary, auxiliary) can effectively track changes in BSS severity and reflect the therapeutic effects of blood-activating and stasis-resolving therapy[21].

To further evaluate the diagnostic sensitivity of the "*International Guideline*", a comparison was made against the "*Diagnostic Criteria for Blood Stasis Syndrome* (1986)" and the "*Draft Diagnostic Criteria for BSS in CHD*". In double-blind conditions, each patient was scored three times using the "*Diagnostic Criteria for Blood Stasis Syndrome* (1986)" (BSS score), the "*Draft Diagnostic Criteria for BSS in CHD*" (Draft BSS in CHD score), and the "*International Guideline*" (BSS in CHD score), respectively. Scoring was performed at baseline and end of this trial. The reduction rates of the scores were analyzed and compared across the three criteria, and results showed that the reduction rate of the *International Guideline* score was significantly greater than that of the 1986 criterion score and the Draft Criterion score ($P < 0.05$), which indicate that the *International Guidelines* not only demonstrate a good clinical practicability but are also more sensitive than previous criteria in detecting changes in the severity of BSS[22].

Bibliography

[1]Fu CG, Gao ZY, Chen J, et al. Cross-sectional Investigation of Treatment and Syndrome of Coronary Artery Disease in Beijing and Tianjin[J]. Chinese Journal of Experimental Traditional Medical Formulae, 2010,16(12):176-179.

[2]Shi XL, Gao ZY, Yang QN, et al. Association of Main Risk Factors with Blood Stasis Syndrome in Coronary Artery Disease[J]. Chinese Journal of Integrative Medicine on Cardio-Cerebrovascular Disease, 2014,12(06):646-648.

[3]Gao ZY, Zhang JC, Xu H, et al. Analysis of relationships among syndrome, therapeutic treatment, and Chinese herbal medicine in patients with coronary artery disease based on complex networks[J]. Journal of Integrative Medicine, 2010,8(03):238-243.

[4]Qu D, Gao ZY, Xu H, et al. Evolution of TCM Syndromes in Stable Coronary Heart Disease with Acute Cardiac Event[J]. Chinese Journal of Integrative Medicine on Cardio-Cerebrovascular Disease, 2014,12(08):905-907.

[5]Yang QN, Gu F, Gao ZY, et al. Distribution and Combination Characteristics of TCM Syndrome Elements in Acute Coronary Syndrome Patients with Percutaneous Coronary Intervention[J]. Journal of Emergency in Traditional Chinese Medicine, 2014,23(01):6-8.

[6]Fu CG, Gao ZY, Shi DZ, et al. Delphi Consulting Study on Diagnostic Criteria of Blood Stasis Syndrome in Coronary Artery Disease[J]. Liaoning Journal of Traditional Chinese Medicine, 2013,40(06):1080-1082.

[7]Luo J, Fu CG, Xu H. Application of Qualitative Interviews in Inheritance Research of Famous Old Traditional Chinese Medicine Doctors: Ideas and Experience[J]. Chinese Journal of Integrated Traditional and Western Medicine, 2015,35(04):492-496.

[8]Fu CG, Gao ZY, Wang PL, et al. Study on the Diagnostic Criteria for Coronary Heart Disease Patients of Blood Stasis Syndrome[J]. Chinese Journal of Integrated Traditional and Western Medicine, 2012,32(09):1285-1286.

[9]Fu CG, Gao ZY, Yang QN, et al. Research on the Diagnostic Criteria for Coronary Heart Disease with Blood Stasis Syndrome Based on Disease-Syndrome Combination[J]. Chinese Journal of Integrative Medicine on Cardio-Cerebrovascular Disease, 2018,16(11):1473-1475.

[10]Shi XL. Optimizing Diagnostic Criterion of Blood Stasis Syndrome of Coronary Heart Disease[D]. China Academy of Chinese Medical Sciences, 2014.

[11]Activating Blood Circulation Committee of Chinese Association of Integrative Medicine, Chen KJ, Shi DZ, et al. Diagnostic Criterion of Blood Stasis

Syndrome for Coronary Heart Disease[J]. Chinese Journal of Integrated Traditional and Western Medicine, 2016,36(10):1162.

[12]Activating Blood Circulation Committee of Chinese Association of Integrative Medicine. Diagnostic Criterion of Blood Stasis Syndrome for Coronary Heart Disease[J]. Chinese Journal of Integrative Medicine, 2016,22(11):803-804.

[13]Lu XY, Shi DZ, Xu H, et al. Clinical Study on Effect of Xiongshao Capsule on Restenosis after Percutaneous Coronary Intervention[J]. Chinese Journal of Integrated Traditional and Western Medicine, 2006,(01):13-17.

[14]Ma XC, Yi TY, Chen KJ, et al. Relationship between Coronary Arteriography and Syndrome Differentiation Type of TCM[J]. Chinese Journal of Integrated Traditional and Western Medicine, 2001,(09):654-656.

[15]Zhang CJ, TAO QC. The application of Clinical laboratory indexes in the syndrome differentiation about blood stasis syndrome[J]. International Journal of Laboratory Medicine, 2015,36(12):1741-1743.

[16]Wei W, Xu FQ, Wei W, et al. A Clinical Study of Delphi Method for Acquiring Diagnostic Indicators for Qi Stagnation and Blood Stasis Syndrome[J]. Chinese Journal of Integrative Medicine on Cardio-Cerebrovascular Disease, 2012,10(04):388-389.

[17]Jiang CX, Quan LF, Xu FQ. Application of Delphi Method for Defining Weights of the Main Characteristics in Blood Stasis Syndrome[J]. Chinese Journal of Integrative Medicine on Cardio-Cerebrovascular Disease, 2010,8(04):385-387.

[18]Li JX, Li JX, Su Y, et al. Modified Buyanghuanwu Decoction combined with conventional Western medicine in treatment of coronary heart disease of qi deficiency and blood stasis type: a systematic review[J]. Chinese Journal of Evidence-Based Cardiovascular Medicine, 2020,12(09):1043-1046.

[19]Su X. Clinical Evaluation Research on the Diagnostic Criteria for Coronary Heart Disease Patients with Blood Stasis Syndrome[D]. China Academy of Chinese Medical Sciences, 2013.

[20]Su X, Gao ZY, Zhang QX, et al. Correlation Research between Blood Stasis Syndrome and the Gensini Score of Coronary Angiography in Coronary Heart Disease Patients without Intervention[J]. Chinese Journal of Integrative Medicine on Cardio-Cerebrovascular Disease, 2013,11(02):129-130.

[21]Yang QN, Gu F, Gao ZY, et al. Guanxin Danshen Dripping Pill for Treatment of Coronary Heart Disease: A Systematic Review[J]. Chinese Journal of Experimental Traditional Medical Formulae, 2014,20(16):218-224.

[22]Qu H, Guo M, Chai H, et al. Effects of Guanxin Danshen Dripping Pill on Blood Stasis Syndrome Scores and Levels of Serum associated Adhesion Factors in Chronic Stable Angina Patients with Blood Stasis Syndrome[J]. Journal of Traditional Chinese Medicine,2017,58(05):394-397.