Traditional Chinese Medicine 中医学, 2025, 14(4), 1659-1664
Published Online April 2025 in Hans. https://www.hanspub.org/journal/tcm
https://doi.org/10.12677/tcm.2025.144246

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基于“二阳之病发心脾”理论探讨心力衰竭患者腹胀与肠道菌群的关联性分析

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收稿日期：2025年3月12日；录用日期：2025年4月15日；发布日期：2025年4月28日

摘　要

随着我国心力衰竭(心衰)患病率的攀升，患者除心功能减退外，常伴腹胀等消化系统症状，其防治成为临床关注重点。现代研究证实肠道菌群紊乱与心血管疾病密切相关，而中医经典《素问·阴阳别论》提出“二阳之病发心脾”，认为手阳明胃经与足阳明大肠经功能失调可累及心脾，进而影响气血运行。文章结合中医理论与现代医学成果，探讨心衰患者腹胀与肠道菌群失衡的病理关联，为中西医结合干预提供理论依据。

关键词

“二阳之病发心脾”，心力衰竭，肠道菌群，腹胀，心脾同调

Analysis of the Correlation between Abdominal Distension and Intestinal Flora in Patients with Heart Failure Based on the Theory of “Two Yang Disease Causing Heart and Spleen”

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Received: Mar. 12th, 2025; accepted: Apr. 15th, 2025; published: Apr. 28th, 2025

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文章引用: 韩新龙, 李彬. 基于“二阳之病发心脾”理论探讨心力衰竭患者腹胀与肠道菌群的关联性分析[J]. 中医学, 2025, 14(4): 1659-1664. DOI: 10.12677/tcm.2025.144246

Abstract

With the rising prevalence of heart failure (heart failure) in China, patients in addition to cardiac dysfunction, often accompanied by abdominal distension and other digestive system symptoms, its prevention and treatment have become the focus of clinical attention. Modern studies have confirmed that intestinal flora disorders are closely related to cardiovascular diseases, and the traditional Chinese medicine classic "Su Wen·Yin and Yang Difference" proposed that "the disease of two Yang causes the heart and spleen", and believed that the dysfunction of the stomach channel of hand Yangming and the large intestine channel of foot Yangming could affect the heart and spleen, and then affect the movement of qi and blood. Combining the theory of traditional Chinese medicine with the achievements of modern medicine, this paper discusses the pathological relationship between abdominal distension and intestinal flora imbalance in patients with heart failure, providing theoretical basis for the intervention of integrated Chinese and Western medicine.

Keywords

"Two Yang Disease Causing Heart and Spleen", Heart Failure, Intestinal Flora, Abdominal Bloating, Heart and Spleen Coordination

1. 引言

心力衰竭(简称心衰)是由于心脏结构或功能异常导致心输出量不足或充盈压升高，引起呼吸困难、乏力、水肿等症状的临床综合征[1]。全球约有 6400 万心衰患者，发达国家患病率更高[1]。每年新增 300 万病例，发展中国家因人口老龄化和心血管风险因素增加，发病率显著上升[2]。有研究结果表明，心输出量减少和体循环、肺循环淤血可导致肠道缺血和水肿，造成心衰患者出现腹胀的现象，肠黏膜屏障遭到破坏后会引起细菌易位，从而导致全身性内毒素增加，进一步加剧心衰[3]。中医认为，心衰所引起的一系列消化道症状，可属于“痞满”、“腹痛”、“纳呆”、“呕吐”等范畴，其病位以心、脾为主。心衰作为心脏泵血功能受损的综合征，常因体循环淤血引发肠道缺血及水肿，导致腹胀高发，研究显示，约 72.88%的 NYHA II-IV 级患者存在腹胀症状，且与心功能恶化呈正相关[4]。心衰发生后，胃肠道由于病理生理改变引起消化、吸收障碍及胃肠生理功能出现变化，腹胀、纳差、早饱、恶心呕吐、腹围增加、反酸、嗳气、便秘等是慢性心衰患者病程中常见的消化、吸收功能障碍的表现，而这些消化系统的表现又与心衰的严重程度呈正相关[5]。

2. 心衰患者腹胀的机制及流行病学

心衰患者出现腹胀是常见的临床表现，主要与体循环淤血、内脏灌注不足及药物副作用等因素相关[6]。心衰时，心脏泵血功能减退，导致静脉回流受阻(尤其是右心衰竭)，门静脉压力升高，引发胃肠道淤血和肠壁水肿，水肿的肠道壁可压迫肠腔，减缓蠕动，导致腹胀、便秘或吸收不良[7]。Feldama [7]等通过超声检查发现，右心衰竭患者肠壁厚度显著增加，与腹胀程度呈正相关。调查发现，约 30%~40%的急性失代偿性心衰患者报告显著腹胀，且与 NYHA III-IV 级密切相关[8]。研究表明，腹胀与更高的 30 天再住院率(HR = 1.5, 95% CI: 1.2~1.8)及生活质量下降相关[6]；并且 BNP 水平升高与腹胀严重程度呈正相关

[9]。心衰患者常因右心功能不全导致体循环淤血，胃肠道静脉回流受阻，引发肠壁水肿和蠕动减弱，进而导致腹胀[10]；另外肝淤血和腹水也可能加重症状[10]。利尿剂是心衰治疗的基石，但长期使用可导致低钾血症和肠道平滑肌收缩无力，诱发腹胀甚至麻痹性肠梗阻[11]。如呋塞米可能会引起低钾血症或低镁血症，导致肠麻痹；阿片类药物或血管紧张素转化酶抑制剂也可能加重胃肠动力障碍[11]。Ellison [12]等指出，约 30%长期使用袢利尿剂的心衰患者出现腹胀或便秘。

心衰患者因心输出量减少和内脏淤血，导致肠道血流灌注不足，引发肠道粘膜缺血缺氧，破坏肠道屏障功能[4]。肠道屏障损伤后，细菌内毒素易透过肠壁进入血液循环，激活全身炎症反应(如 TNF-α、IL-6 升高)，加重心肌损伤和心衰进展[13]。有研究表明，长期卧床及肠道淤血可能改变菌群结构，产生过多气体，加剧腹胀[4]。Pasini [14]等发现，慢性心衰患者肠道菌群多样性降低，甲烷呼气试验阳性率显著高于正常人。Sandek 等人对 65 例 NYHA 分级 II~IV 级、处于疾病稳定期的心衰患者进行研究发现，心衰患者发生率较高的消化系统症状为腹胀(72.88%)、腹鸣(57.62%)、早饱(58.62%)和嗳气(25.42%)等[4]。Kato 等人让 371 例住院心衰患者报告其最严重的症状，52%的患者认为是呼吸困难，32%的患者认为是乏力，8%的患者认为是腹部不适，还有 8%的患者认为是水肿[15]。此外，消化系统症状如食欲减退(57%)、便秘(18.1%)等频发，提示胃肠功能障碍可能加剧心衰进展[16]。这些数据均表明了消化系统症状尤其是腹胀在心衰患者中频频发作。

3. 心衰伴腹胀的中医病机

中医认为“心主血脉”，而“脾主运化”，两者通过气血生成和运行的相互依赖形成关联。从中医理论来看，心衰腹胀是心、脾、肾多脏功能衰退，导致气、血、水运行失常的结果，其导致腹胀的机制与脏腑功能失调、气血水液代谢障碍密切相关。现代中医研究发现，慢性心衰患者常伴随胃肠道淤血、肠壁水肿及肠道菌群失调，中医辨证多属“阳虚血瘀”，与腹胀密切相关[17]。

3.1. 气虚血瘀

心衰的病理性质总属本虚标实，多见虚实夹杂，本虚常以气虚为主，标实常以血瘀为主[18]。本虚是心衰的基本要素，决定了心衰的发展趋势；标实是心衰的变化因素，影响着心衰的病情变化，本虚和标实的消长决定了心衰发展演变[19]。心气亏虚，血行不畅，形成血瘀；淤血阻碍三焦气化，水液代谢失常，水湿与淤血互结于腹中，导致腹胀如鼓；“血管无力，必停留为淤”，致胃肠道淤血，蠕动能力减弱，“血瘀则气滞，气滞则水停……腹胀乃成”。心神失养，心气不足，影响脏腑气机，中焦升降失司，导致胃肠的降浊、传导功能失常，胃肠正常消化过程难以进行。

3.2. 心脾两虚

中医认为心衰属本虚标实，以气虚血瘀为核心。心气不足则血行无力，胃肠淤血致蠕动减弱；脾失健运则水湿停滞，进一步阻碍气机升降。《医宗金鉴》中提到：“心阳衰微，火不生土，则脾土寒湿，腹满而泻”。心阳不足，不能温煦脾土，导致脾阳不振，运化失职，水湿停滞于中焦，则出现腹胀、纳呆、便溏。心脾两脏通过经络相连，若心阳不振，母病及子，脾虚则气血生化乏源，形成“心脾两虚－胃肠壅滞”的恶性循环。这与《素问》中的“二阳之病发心脾”理论相契合，强调心脾功能异常是胃肠失调的根源。

4. “二阳之病发心脾”理论溯源

《素问·阴阳别论》中有“二阳之病发心脾”这一文，二阳即阳明大肠及胃之脉也。《类经》认为，“发”解释为“发于”，即阳明经病发于心脾，“盖胃与心，母子也，人之情欲本以伤心，母伤则害及其

子。胃与脾，表里也，人之劳倦，本以伤脾，脏伤则病连于腑，故凡内而伤精，外而伤形，皆能病及于胃，此二阳之病，所以发于心脾也。”[20]张景岳也认为“二阳之病发心脾”是二阳胃与大肠之病由心脾之病所引起，其在《类经·阴阳发病》中指出：“二阳，阳明也，为胃与大肠二经。然大肠小肠皆属于胃，故此节所言则独重在胃耳。”心脾不足，而病及于胃，胃伤则精血更亏，而变生它病。《黄帝素问直解》中指出胃、心、脾三者之间的生理病理联系，如“土供火生，胃由脾运，今病心脾，是火不能生土，脾不能运胃也。”

5. “二阳之病发心脾”理论与心衰伴腹胀的关系

《素问·五运行大论篇》指出“心生血，血生脾”；《素问·玉机真藏论篇》也指出“心受气于脾”，故心脾共同统率胃肠[21]。《灵枢·本输》更有“大肠、小肠，皆属于胃，是足阳明也”这一观点[22]。而阳明经是多气多血的经脉，主管人体的消化吸收和排泄废物，阳明经气血旺盛，则胃肠消化吸收功能正常。但这一消化功能仍需心气的气化作用和心阳的温煦作用，一旦心阳不振，心气不足，则影响脾胃的运化、大肠的传化糟粕，痰饮内停，则会发生心悸、气短、胸闷、腹胀、腹痛、腹泻等问题。

6. 肠道菌群与腹胀的关系

人体肠道微生物群是生活在人体肠道(主要是大肠)中的微生物群落，大肠中 99%以上的微生物群由细菌组成，多为厌氧菌，原核细胞总数约等于人体细胞总数[23]。肠道菌群通过发酵未消化的碳水化合物(如膳食纤维、乳糖等)产生气体(如氢气、甲烷、二氧化碳等)，而产气菌过度增殖(如产甲烷古菌、硫酸盐还原菌)时，可能导致气体累积，引发腹胀[24]。当产甲烷菌通过消耗氢气产生甲烷，可能延缓肠道传输时间，从而加重腹胀感[24]。某些细菌产生的氢气可被其他菌群利用，但过量时可能导致肠道扩张[25]。研究显示，肠道微生物通过其代谢物(如短链脂肪酸、胆汁酸等)调控肠道动力，而肠道菌群失衡则可引起胃肠动力障碍，临床上主要症状为腹泻、便秘等[26]；丁酸等短链脂肪酸虽然可以促进肠道蠕动，但其过量可能会刺激肠道的敏感性[26]。现代医学认为，肠道菌群失调导致的内毒素入血及炎症反应，是心衰合并腹胀的重要机制[27]。二阳即阳明胃与大肠，二者为“传化之腑”，依赖心阳温煦与脾气运化。心脾不足可致胃肠传化失职，表现为腹胀、纳差等。研究发现，心衰患者肠道菌群中产丁酸盐菌减少，致病菌增殖，破坏黏膜屏障，引发全身炎症[28]。丁酸盐作为短链脂肪酸，不仅维持肠道屏障，还可通过抑制炎症因子减轻心脏损伤[29]。中医“心脾同治”的理念与调节菌群平衡的现代策略不谋而合。心衰患者肠道微生态紊乱表现为厚壁菌、拟杆菌比例异常，导致肠通透性增加及细菌易位[30]。研究发现，肠粘膜上皮内的菌群增多，引起小肠、大肠的通透性增高，引起肠内微环境的变化，进而影响肠粘膜屏障功能[4]。

有研究认为，甲烷阳性患者的腹胀更明显，其机制可能是甲烷可直接抑制肠道平滑肌收缩，减缓传输速度[31]。部分患者小肠细菌过度生长，出现小肠细菌异常增殖，导致气体和炎症增加，这也是腹胀的一个重要诱因[32]。而心衰患者长期使用抗生素、利尿剂或限钠饮食，可能进一步破坏肠道菌群平衡，减少短链脂肪酸等有益代谢物生成[14]。业内专家就肠道菌群与心力衰竭发生发展的关系提出了“心力衰竭肠道假说”[33]，菌群代谢产物如三甲胺-N-氧化物(TMAO)亦被证实可促进动脉粥样硬化，间接加剧心衰[34] [35]。内毒素入血后激活免疫反应，加重心脏重构。此外，脾虚证患者肠道内乳酸杆菌等益生菌减少，进一步印证“脾虚致菌群失调”的中医理论[36]。

7. 总结

基于“心脾同调”原则，中医药可通过益气活血、健脾化湿，改善胃肠功能，如黄芪、党参等补益心脾，配合益生菌制剂调节菌群平衡。未来需借助代谢组学等技术，深入解析“二阳之病发心脾”的科学内涵，推动中西医协同治疗心衰伴腹胀的临床实践。

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