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Efficacy of Nondiuretic Pharmacotherapy for Improving the Treatment of Congestion in Patients with Acute Heart Failure: A Systematic Review of Randomised Controlled Trials

[Journal of Clinical Medicine](#) • Article • Open Access • 2022 • DOI: 10.3390/jcm11113112 [Emara, Abdelrahman N.](#)^a ; [Mansour, Noha O.](#)^a ; [Elnaem, Mohamed Hassan](#)^{b,c} ; [Wadie, Moheb](#)^d ; [Dehele, Inderpal Singh](#)^e ; [+1 author](#)^a Clinical Pharmacy and Pharmacy Practice Department, Faculty of Pharmacy, Mansoura University, Mansoura, 35516, Egypt[Show all information](#)

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Abstract

Diuretic therapy is the mainstay during episodes of acute heart failure (AHF). Diuretic resistance is often encountered and poses a substantial challenge for clinicians. There is a lack of evidence on the optimal strategies to tackle this problem. This review aimed to compare the outcomes associated with congestion management based on a strategy of pharmacological nondiuretic-based regimens. The PubMed, Cochrane Library, Scopus, and ScienceDirect databases were systematically searched for all randomised controlled trials (RCTs) of adjuvant pharmacological treatments used during hospitalisation episodes of AHF patients. Congestion relief constitutes the main target in AHF; hence, only studies with efficacy indicators related to decongestion enhancement were included. The Cochrane risk-of-bias tool was used to evaluate the methodological quality of the included RCTs. Twenty-three studies were included; dyspnea relief constituted the critical efficacy endpoint in most included studies. However, substantial variations in dyspnea measurement were found. Tolvaptan and serelaxin were found to be promising options that might improve decongestion in AHF patients. However, further high-quality RCTs using a standardised approach to diuretic management, including dosing and monitoring strategies, are crucial to provide new insights and recommendations for managing heart failure in acute settings. © 2022 by the authors. Licensee MDPI, Basel, Switzerland.

Author keywords

acute decompensated heart failure; acute heart failure; adjuvant; decompensation; decongestion; dyspnea; empagliflozin; levosimendan; serelaxin; tolvaptan

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Abstract

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