

Role of Angiotensin-Converting Enzyme Inhibitors (ACEIs) in heart failure: Mechanism of action and benefits of ACEIs

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ABSTRACT

INTRODUCTION: Heart failure is a chronic condition characterized by the heart's inability to pump blood effectively. Angiotensin-Converting Enzyme Inhibitors (ACEIs) are pivotal in the treatment of this condition due to their vasodilatory, antihypertensive, and cardioprotective effects. **OBJECTIVE:** This summary explores the mechanism of action of ACEIs and the benefits associated with their use in managing heart failure, based on information from renowned academic sources. **Methodology:** A literature review was conducted using works such as "Goodman & Gilman's The Pharmacological Basis of Therapeutics," "Basic and Clinical Pharmacology" by Katzung, among others, to identify the mechanisms of action of ACEIs and clinical data supporting their efficacy in heart failure. **RESULTS:** ACEIs act by inhibiting the conversion of angiotensin I to angiotensin II, a potent vasoconstrictor. Additionally, they promote vasodilation and reduce sodium and water retention, improving cardiac function and reducing symptoms such as dyspnea and edema. **CONCLUSIONS:** ACEIs are a critical intervention in the treatment of heart failure, offering significant benefits in patient quality of life. A detailed understanding of their mechanism of action and clinical benefits is essential for contemporary medical practice.

Keywords: ACE inhibitors, Heart failure, Mechanism of action, Vasodilation, Cardioprotection.

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