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ACE Inhibitors and Angiotensin Receptor Blockers for the Primary and Secondary Prevention of Cardiovascular Outcomes: Recommendations from the 2024 Egyptian Cardiology Expert Consensus in Collaboration with the CVREP Foundation

Introduction

The renin–angiotensin–aldosterone system (RAAS) plays a pivotal role in regulating blood pressure (BP), with dysregulation of RAAS resulting in hypertension and potentially heart failure (HF), myocardial infarction (MI), cardio-renal syndrome, and stroke. RAAS inhibitors, such as angiotensin-converting enzyme inhibitors (ACEis) and angiotensin receptor blockers (ARBs), have advantages beyond BP control. However, differences between these two drug classes need to be considered when choosing a therapy for preventing cardiovascular events.

Methods

A panel of 36 Egyptian cardiologists developed consensus statements on RAAS inhibitors for primary and secondary prevention of cardiovascular outcomes and stroke, using a modified three-step Delphi process. Results: The consensus statements highlight the importance of effective BP control and the role of RAAS blockade for prevention and management of various cardiovascular diseases. ACEis and ARBs differ in their mode of action and, thus, clinical effects. On the basis of available evidence, the consensus group recommended the following: ACEis should be considered as first choice (in preference to ARBs) to reduce the risk of MI, for primary prevention of HF, and for secondary prevention of stroke. ACEis and ARBs show equivalent efficacy for the primary prevention of stroke. Evidence also favors the preferential use of ACEis in patients with type 2 diabetes, for BP control, for the primary prevention of diabetic kidney disease, and to reduce the risk of major cardiovascular and renal outcomes. Treatment with an ACEi should be started within 24 h of ST segment elevation MI (and continued long term) in patients with HF, left ventricular systolic dysfunction, and/or diabetes. Angiotensin receptor/neprilysin inhibitors (ARNIs) are the first choice for patients with HF and reduced ejection fraction, with ACEis being the second choice in this group. ARBs are indicated as alternatives in patients who cannot tolerate ACEis. ACEis may be associated with cough development, but the incidence tends to be overestimated, and the risk can be reduced by use of a lipophilic ACEi or combining the ACEi with a calcium channel blocker.

Conclusion

RAAS blockade is an essential component of hypertension therapy; however, the protective effects provided by ACEis are superior to those of ARBs. Therefore, an ACEi is indicated in almost all cases, unless not tolerated.

Keywords: Angiotensin-converting enzyme inhibitors; Angiotensin receptor blockers; Cardiovascular outcomes; Hypertension; Heart failure; Myocardial infarction; Renin–angiotensin–aldosterone system; Stroke

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Biography

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