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Angiotensin receptor blockers in the elderly, efficacy and safety: A meta-analysis of randomized trials

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Objectives: To determine the efficacy and safety of Angiotensin receptor blockers (ARBs) in the elderly population.

Background: ARBs are recommended as an alternative to angiotensin converting enzyme inhibitors (ACEIs) in patients who are intolerant to ACEIs, yet their efficacy and safety in the elderly is unclear.

Methods: We searched the MEDLINE database from inception to October 2013 for randomized controlled trials that compared ARBs to control (another anti-hypertensive agent or placebo). We included only trials that reported clinical outcomes and the mean age of patients was 65 years and above. Random effects summary risk ratios (RR) were constructed using a DerSimonian-Laird model.

Results: 23 studies met our selection criteria, which included 117,611 patients. ARBs were associated with reduced heart failure hospitalization (RR: 0.85, 95% confidence interval [CI] 0.74-0.98, $p < 0.0001$), non-significant reduction in the risk of stroke (RR: 0.93, 95% CI: 0.87-0.99, $p=0.13$), increased risk of hypotension (RR: 1.59, 95% CI: 1.27-1.99, $p<0.0001$) and hyperkalemia (RR: 1.47, 95% CI: 1.07-2.03, $p=0.002$). All-cause mortality and cardiovascular mortality did not differ in both groups (RR: 1.03, 95% CI: 0.99-1.06, $p=0.32$) and (RR: 1.00, 95% CI: 0.95-1.06, $p=0.053$), respectively.

Conclusion: In the elderly, ARBs are associated with a reduction in heart failure hospitalization and a modest reduction in the risk of stroke. The risk of hypotension and hyperkalemia tends to be higher in this population. Thus, ARBs should be used with caution in the elderly when clinically indicated.

Biography

Islam Y. Elgendy is currently a second year internal medicine resident at the University of Florida with particular interest in Cardiology. His research interest is the management of hypertension in the elderly and interventional cardiology particularly fractional flow reserve. He has published several papers in the field of cardiology and presented multiple abstracts at regional and national conferences.

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