

Article of Interest

Fabia, M et al. Anti-hypertensive activity of ARB antagonists: a systematic review of studies with 24hr ambulatory BP monitoring. Journal of Hypertension. 2007. ([Click to Access](#))

Context and Study Objective

Angiotensin Receptor Blockers are frequently viewed as interchangeable. Given the lack of head-to-head trials comparing multiple ARBs, Fabia explored differences in anti-hypertensive efficacy via a systematic review.

Main Outcome

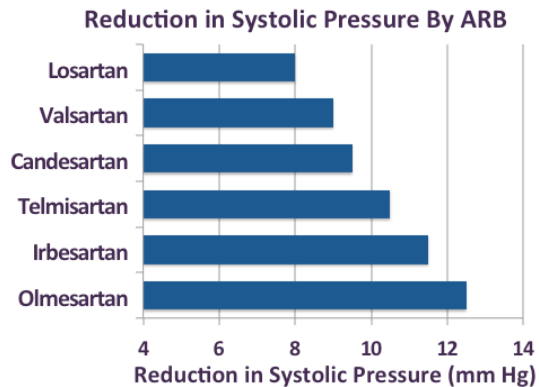
To analyze and compare the anti-hypertensive effect of various ARBs.

Design, Setting, and Participants

Utilizing a systematic review, the anti-hypertensive efficacy of various ARBs was ascertained. Analysis of variance was employed to compare individual agents while controlling for differences in dose and initial blood pressure. Only studies measuring BP via 24hr ambulatory monitoring were included. Azilsartan was not FDA approved at the time of data collection.

Results

- 35 publications with 11,000 patients were analyzed.
- Figure: Mean reductions in 24hr systolic pressures varied by agent with statistically significant differences between medications. A similar pattern for diastolic pressures was noted.
- Table: Persistence of anti-hypertensive effect during the 4 hrs preceding the following dose generally mirrored agent half life. (Half life and duration of action are not synonymous but do correlate to some extent. However, olmesartan does maintain its effect for nearly 24 hrs).



Clinical Perspective

-I find ARB selection is often dictated by habit rather than by clinical considerations.

However, anti-hypertensive efficacy and duration of action differ between agents. Both are relevant given the difference in cardiovascular outcomes with even small differences in achieved BP and **the importance of early morning BP control.**

-By far, the most potent and long acting ARB is azilsartan (Edarbi) which was not approved until after this paper's publication. It does require commercial insurance or prior authorization; alternatives include telmisartan (off-patent) or olmesartan (generic 2017). Despite this paper's findings, I don't find irbesartan to be particularly effective. As such, I dose the remaining agents twice/day to ensure 24 hour BP control and compensate for the loss of potency by prescribing additional anti-hypertensives.

-Disclosures: None to declare.

Half Life By ARB

	Losartan	Valsartan	Candesartan	Telmisartan	Irbesartan	Olmesartan
Half Life	~10 hrs	6 hrs	5-9 hrs	24 hrs	13 hrs	13 hrs