

Rebuttal: Do β -blockers have a role in treating hypertension?

YES

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One of the serious public health problems in Canada today is inadequate blood pressure (BP) control among patients with hypertension.¹ Thus, we need to be very careful before we remove efficacious agents—with which clinicians are familiar and comfortable—from the antihypertensive armamentarium.

We agree with Dr McCormack that β -blockers are not efficacious among the elderly, and these drugs should be avoided as initial monotherapy in this group. Contrary to Dr McCormack's assertion, however, we do see many patients for whom the "2-fer" potential of β -blockers makes them attractive add-ons (eg, patients with hypertension and heart failure or angina).

Dr McCormack disagrees with our assertion that β -blockers are efficacious in preventing cardiovascular events in younger patients when tested as monotherapy. Although he acknowledges that the relative risk reduction in cardiovascular events with β -blockers versus placebo in the 2 trials enrolling younger patients was 14% and statistically significant (relative risk [RR] 0.86; 95% confidence interval [CI] 0.746–0.996; $P=.04$),² he points out that the absolute risk reduction was only 0.5% and thus believes use of this agent is not warranted. The savvy reader will be aware, however, that absolute risk reductions are driven largely by baseline risk, and very few preventive therapies look appealing in younger patients if one focuses solely on the absolute risk reduction. For example, in the Medical Research Council trial of treatment of mild hypertension alluded to by Dr McCormack (one of the few placebo-controlled trials that tested the efficacy of thiazide diuretics in young patients with mild hypertension; mean age 52 years and mean BP 161/98 mm Hg), thiazide diuretics reduced the relative risk of cardiovascular events by 21% (RR 0.79; 95% CI 0.65–0.97; $P=.02$), but this translated into an absolute risk reduction of only 0.8%.³ Would Dr McCormack then advocate against the use of thiazide diuretics in younger hypertensive

NO

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Dr Khan and McAlister conclude that " β -blockers should not be used for first-line monotherapy in elderly patients with hypertension" but that they "remain reasonable first-line treatment for patients younger than 60 with uncomplicated hypertension." Space unfortunately limits a thorough discussion of all the points made in their article, but their conclusions appear to be based primarily on their recently published meta-analysis.¹ What did this show?

In the studies that compared β -blockers with placebo, by the slimmest of margins (relative risk [RR] 0.86; 95% confidence interval [CI] 0.74–0.99), fewer patients younger than 60 who received β -blockers developed an a priori-determined end point (composite cardiovascular outcome of death, non-fatal myocardial infarction, or non-fatal stroke). Interestingly, the RR was very similar for patients older than 60, but this did not reach statistical significance (RR 0.89; 95% CI 0.75–1.05). Most important, the 95% CI for these groups almost completely overlaps, so these data cannot be used to conclude that the 2 age groups respond differently to β -blockers.

Their second group of findings (β -blockers versus other drugs) suggests that patients older than 60 who received β -blockers developed more end points, again just reaching statistical significance (RR 1.06; 95% CI 1.01–1.10). Interestingly, the authors state that they "did not have access to individual patient data," so they used the mean age of trial participants to make decisions about which studies would be included in each group. Two of the studies included in the older than 60 age group (accounting for 38% of the patients) were the NORDIL and ASCOT-BPLA studies. In these studies the mean ages were 60.4 and 63, respectively. So in other words, an important percentage of the subjects allocated to this group were younger than 60 (the actual number cannot be determined because individual data are not available). This issue alone should bring their results into question.

These rebuttals are responses from the authors who were asked to discuss "Do β -blockers have a role in treating hypertension?" in the Debates section of the April issue (*Can Fam Physician* 2007;53:614-7 [Eng], 618-21 [Fr]). In these rebuttals, the authors refute their opponents' arguments.

YES

patients on the basis of this modest absolute risk reduction? We wouldn't.

In the treatment of hypertension, the key points for clinicians to remember are as follows:

- lowering BP prevents cardiovascular events,
- greater reductions in BP translate into greater benefits,
- most of the differences in benefits seen between drug classes in active-control trials are due to differences in degree of BP lowering achieved,⁴ and
- most hypertensive patients require more than one agent to achieve optimal BP control. ❁

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References

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NO

In my opinion, the data for β -blockers are underwhelming compared with data for some other agents, in particular thiazides, which, I believe, are the true first-line agents—yes, even among type 2 diabetics.^{2,3} But on the evidence hierarchy, “expert” opinion is the lowest form of evidence—so I encourage readers to look at the data and draw their own conclusions. ❁

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