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[Intervention Review]

Blood pressure lowering efficacy of alpha blockers for primary hypertension

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ABSTRACT

Background

Alpha blockers are occasionally prescribed for hypertension so it is important to determine and compare their effects on blood pressure (BP), heart rate and withdrawals due to adverse effects (WDAE).

Objectives

To quantify the dose-related systolic and/or diastolic BP lowering efficacy of alpha blockers versus placebo in the treatment of primary hypertension.

Search methods

For the updated review, we searched CENTRAL (The Cochrane Library 2012, Issue 4), MEDLINE (1946 to May 2012), EMBASE (1980 to May 2012) and reference lists of articles.

Selection criteria

Double-blind, randomized, controlled trials evaluating the BP lowering efficacy of fixed-dose monotherapy with an alpha blocker compared with placebo for a duration of 3 to 12 weeks in patients with primary hypertension.

Data collection and analysis

Two authors independently assessed the risk of bias and extracted data. Study authors were contacted for additional information. WDAE information was collected from the trials.

Main results

Only 10 trials evaluated the dose-related trough BP lowering efficacy of 4 different alpha blockers in 1175 participants with a baseline BP of 155/101 mm Hg. The data do not suggest that any one alpha blocker is better or worse at lowering BP. The best but unsatisfactory estimate of the trough BP lowering efficacy for alpha blockers is -8/-5 mmHg.

Authors' conclusions

Based on the limited number of published RCTs, the BP lowering effect of alpha blockers is modest; the estimate of the magnitude of trough BP lowering of -8/-5 mmHg is likely an overestimate. There are no clinically meaningful BP lowering differences between different alpha blockers. The review did not provide a good estimate of the incidence of harms associated with alpha blockers because of the short duration of the trials and the lack of reporting of adverse effects in many of the trials.

PLAIN LANGUAGE SUMMARY

Alpha blockers have a modest BP lowering effect

The class of drugs called alpha blockers is sometimes used to lower elevated blood pressure. This class includes drugs such as doxazosin (brand name: Cardura), prazosin (Minipress) and terazosin (Hytrin). We asked how much this class of drugs lowers blood pressure and whether there is a difference between individual drugs within the class. The available scientific literature was searched to find all the trials that had assessed this question. We found only 10 trials studying the blood pressure lowering ability of 4 different alpha blockers in 1175 participants. The blood pressure lowering effect was modest. There was an 8-point reduction in the upper number that signifies the systolic pressure and a 5-point reduction in the lower number that signifies the diastolic pressure. No alpha blocker drug appears to be any better or worse than others in terms of blood pressure lowering ability. Due to incomplete reporting of the number of participants who dropped out of the trials due to adverse drug reactions, as well as the short duration of these trials, this review could not provide an estimate of the harms associated with this class of drugs.