Lacidipine: a review of its pharmacodynamic and pharmacokinetic properties and therapeutic potential in the treatment of hypertension

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Authors' objectives
To assess the therapeutic potential of lacidipine in hypertension.

Searching
MEDLINE, AdisBase, drug company databases and symposia proceedings were searched for relevant studies.

Study selection
Study designs of evaluations included in the review
Various designs including non-comparative studies, placebo-controlled studies; comparative studies with other drugs appear to be double-blind randomised controlled trials (RCTs).

Specific interventions included in the review
Lacidipine at 1 to 8 mg/day in dose-titration studies; comparisons with hydrochlorothiazine, atenolol, nifedipine, other calcium-channel blocking agents and enalapril.

Participants included in the review
Patients with mild-to-moderate hypertension: sitting diastolic blood-pressure (BP) 95 to 115 mmHg, and systolic BP 200 mmHg.

Outcomes assessed in the review
The mean decrease in BP was assessed.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality
The authors do not report the criteria used to assess validity, or how the validity assessment was performed.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the authors performed the data extraction.

Methods of synthesis
How were the studies combined?
Tables of mean BP decrease.

How were differences between studies investigated?
The authors did not investigate differences between the studies.

Results of the review
Dose titration, 7 studies with 621 patients; drug comparisons, 6 studies with 1,727 patients.
Once daily administration of 2 to 8 mg lacidipine reduces BP in patients with hypertension.

Authors' conclusions
In dose-titration studies, 2 to 8 mg lacidipine is effective in reducing hypertension in 77 to 87% of patients. The antihypertensive efficacy of lacidipine is equivalent to that of hydrochlorothiazide, atenolol and nifedipine. The number of patients requiring dose increases or the addition of a second drug was similar for all treatments. Adverse effects appear to be similar to those of other calcium-channel blockers, with the most frequently reported effects being headache, flushing, ankle oedema, dizziness and palpitations.

CRD commentary
This study was produced by a commercial company with close links with the pharmaceutical industry. Little detail was given on the studies quoted, and the lack of stated inclusion, exclusion and validity criteria could obscure possible bias.

Implications of the review for practice and research
Lacidipine appears to be a new drug with similar characteristics to calcium-channel blockers already available. There is no clear evidence of specific advantages for this product.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.