

Calcium Channel Blockers

Key Questions and Inclusion Criteria

Update #2

Key Questions

1. Do calcium channel blockers CCBs differ in effectiveness in the treatment of adult patients with essential hypertension (blood pressure \geq 140/90 mm Hg), angina, supraventricular arrhythmias, or systolic dysfunction (left ventricular ejection fraction [LVEF] $<$ 45%)?
2. Do CCBs differ in their safety or adverse effects in the treatment of adult patients with essential hypertension (blood pressure \geq 140/90 mm Hg), angina, supraventricular arrhythmias, or systolic dysfunction (LVEF $<$ 45%)?
3. Based on demographics (age, racial groups, gender), other medications (drug-drug interactions), or co-morbidities (drug-disease interactions), are there subgroups of patients for which one CCB is more effective or is associated with fewer adverse effects?

Inclusion Criteria

Populations

Adult patients with essential hypertension (blood pressure \geq 140/90 mm Hg), angina, supraventricular arrhythmias, or systolic dysfunction (left ventricular ejection fraction [LVEF] $<$ 45%)

Interventions

Interventions include a calcium channel blocker compared with another calcium channel blocker, another drug (such as beta blocker), or placebo. (Calcium channel blockers: amlodipine, bepridil, diltiazem, felodipine, isradipine, nicardipine, nifedipine, nisoldipine, verapamil; extended release formulations to be considered separate to immediate release formulations).

Effectiveness outcomes

Hypertension

- All cause mortality
- Cardiovascular (CV) disease mortality
- CV events (stroke, MI, development of CHF)
- Development of renal failure (end stage renal disease/dialysis/transplant/ Clinically significant, permanent increase in serum creatinine or decrease in creatinine clearance)
- Quality of Life

Angina

- All cause mortality
- Cardiovascular (CV) disease mortality
- CV events (stroke, MI, development of CHF)
- Symptoms
- Quality of Life

Supraventricular arrhythmias

- All cause mortality
- Cardiovascular (CV) disease mortality
- Stroke
- Symptoms (rate or rhythm control, heart failure)
- Quality of Life

Systolic dysfunction

- All cause mortality
- Cardiovascular (CV) disease mortality
- CV events
- Symptoms (exercise tolerance, subjective assessments, and New York Heart Association [NYHA] classification)

Safety outcomes

- Withdrawals
- Withdrawals due to adverse effects
- Specific adverse effects or withdrawals due to specific adverse events, for example, symptomatic hypotension.

Study designs

1. For effectiveness, study is a controlled clinical trial or good quality systematic review.
2. For adverse effects, controlled clinical trials or observational studies.