

Ivabradine as Adjuvant Treatment for Chronic Heart Failure

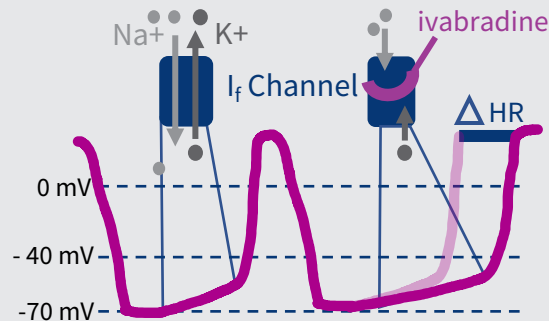
Is ivabradine **effective** and **safe** in individuals with chronic heart failure?

Background

Heart failure with reduced ejection fraction (HFrEF) has a **50%** mortality within 5 years

Drugs that ↓ mortality in HFrEF:
1- ACE inhibitors
2- Beta-blockers
3- Aldosterone antagonists

Ivabradine selectively **slows** heart rate by inhibiting **I_f-channels** at the SA node, reducing rate of depolarization




This allows **more** time for **blood** and **oxygen** to flow to the myocardium



Unlike beta-blockers, it does **not** decrease **heart contractility**

Methods

Literature search identified **19** randomized clinical trials with 19,628 patients.

69% male  Mean age **60.76**

4 meta-analyses compared outcomes in:

- short term (<6 mo) or long term (>6 mo) ivabradine treatment
- HFrEF or HFpEF or HFmrEF

Outcomes

Long term ivabradine treatment compared to usual care, placebo, or no care found:

- evidence of **no difference in mortality** (RR 0.99, CI 0.88-1.11) from cardiovascular events
- **no evidence of difference** in **serious adverse events** (RR 0.96, CI 0.92-1.00)
- **Insufficient data** for meta-analysis of outcomes in short term ivabradine treatment in HFrEF & short or long term treatment in HFpEF

Limitations

- Meta-analysis was limited by trial heterogeneity in type of heart failure, dosage & duration of ivabradine treatment, and outcomes measured
- Only 4/19 studies had an adequately treated control arm
- Evidence strength is **moderate** due to male predominance