

Upfront Pacemaker Implantation versus Standard Care for High-Risk Unexplained Syncope: The Syncope Stopper trial

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BACKGROUND

- Patients with unexplained syncope are at high risk of syncope recurrence
- The DROP score is a simple risk tool to predict highest risk of future bradycardia after initial presentation with syncope
- In patients with unexplained syncope with DROP score ≥ 2 , early pacemaker implant may reduce future syncope



Question:
Does proactive pacing in high-risk unexplained syncope improve outcomes?



Cohort:
200 patients with unexplained syncope age ≥ 55 yo and DROP risk score ≥ 2

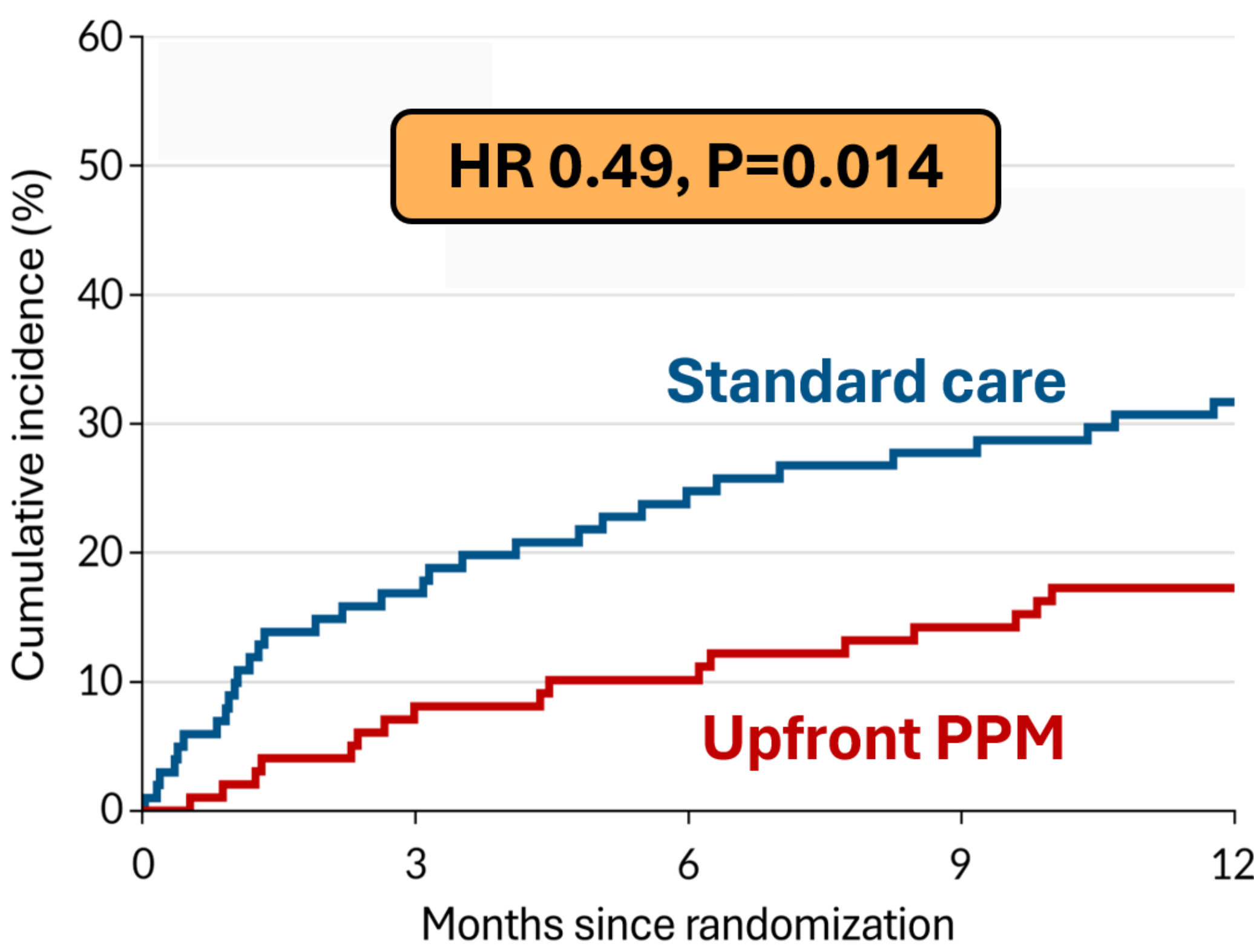


Intervention:
Randomized to upfront pacing versus standard care (Holters, loop recorders)

METHODS

- We performed a randomized trial of 200 patients with unexplained syncope who were ≥ 55 yo with a DROP score ≥ 2
- We randomized these patients to either pacemaker implant or standard care
- Primary outcome: composite of recurrent syncope, severe bradycardia, device complications or mortality at 12 months

RESULTS



Primary composite endpoint of:

- Recurrent syncope
- Bradycardia requiring pacing
- Cardiovascular mortality
- Device complications requiring re-intervention

Standard care: 31.7%

Upfront PPM: 17.2%

The DROP score

- D** Distal conduction disease* +1
- R** Related syncope triggers absent +1
- O** Older age > 65 years +1
- P** PR interval > 200 msec +1

Score ≥ 2 predicts highest risk of future pacemaker implantation

Upfront pacing significantly improved clinical outcomes

- Recurrent syncope: 53% relative risk reduction with upfront pacing
- 43% fewer hospitalization rates in patients with upfront pacing
- No significant difference in major device complications

Outcome	Upfront PPM (n=99)	Standard care (n=101)	Hazard Ratio (95% CI)	P value
Recurrent syncope	11 (11.1%)	22 (21.8%)	0.47 (0.23-0.97)	0.037
Severe bradycardia	0 (0.0%)	19 (18.8%)	-	<0.001
Device complications	3 (3.0%)	1 (1.0%)	3.07 (0.32–29.51)	0.31
All-cause mortality	4 (4.0%)	3 (3.0%)	1.37 (0.31–6.11)	0.68

Conclusion: In patients with unexplained syncope at high risk of bradycardia (DROP score ≥ 2), upfront pacing significantly reduces syncope recurrence and reduces hospitalization