Cardiac pacing reduced non-accidental falls in older adults with cardioinhibitory carotid sinus hypersensitivity


QUESTION: In older adults with cardioinhibitory carotid sinus hypersensitivity (CSH) presenting with a non-accidental fall (defined as coming to rest on the ground or another lower level not because of an accident or known medical cause), does cardiac pacing reduce subsequent non-accidental falls?

Design
Randomised (unclear allocation concealment*), unblinded,* controlled trial with 1 year of follow up.

Setting
A hospital in Newcastle upon Tyne, UK.

Patients
175 patients ≥ 50 years of age (mean age 73 y, 59% women) with cardioinhibitory CSH who reported to the emergency department because of a non-accidental fall. Exclusion criteria included cognitive impairment (Mini-Mental State Examination score < 24), a medical cause for the fall within 10 days of presentation, an accidental fall, blindness, contraindication to carotid sinus massage (CSM), and use of drugs known to cause hypersensitivity to CSM. Follow up was 91%.

Intervention
Patients were allocated to receive a rate-drop response physiological dual chamber pacemaker implant (n=87) or standard (non-pacing) treatment (n=88).

Main outcome measures
Number of falls without loss of consciousness and episodes of syncope.

Main results
Patients with pacemakers had fewer falls without loss of consciousness than did those in the control group (mean 4.1/y v 9.3/y, odds ratio 0.42, 95% CI 0.23 to 0.75). The groups did not differ for episodes of syncope (p=0.063).

Conclusion
In older adults presenting with a non-accidental fall and cardioinhibitory carotid sinus hypersensitivity, cardiac pacing reduced subsequent non-accidental falls.

*See glossary.