Randomized Assessment of Syncope Trial

To the Editor:

The recent article published in Circulation by Krahn et al.1 underlines the usefulness of implantable loop recorders in the investigation of unexplained syncope.

Patients with unexplained syncope were randomized to a “conventional” investigation strategy or to a “prolonged monitoring” strategy with an implantable loop recorder, with the latter strategy yielding a higher diagnostic rate. The conventional investigation strategy did not include, however, carotid sinus massage (CSM) in supine or erect positions as part of the protocol.

CSM is a safe, simple procedure2 that takes little time if added to a head-up tilt protocol such as that used by the authors and yields a diagnosis in up to 30% of older patients with unexplained syncope.3 It consequently forms an integral part of our standard investigative protocol in patients with unexplained syncope. Considering the age profile of the groups studied (mean age >64 years), a diagnosis of cardioinhibitory carotid sinus syndrome could satisfactorily explain the extra diagnoses of bradycardia-induced syncope uncovered by the implantable loop recorder. Such diagnoses could potentially have been revealed by the addition of supine and erect CSM to the conventional investigation protocol without the need to resort to an invasive procedure. In addition, CSM may also have revealed vasodepressor or mixed carotid sinus syndrome in a proportion of the patients, thereby increasing the diagnostic rate. CSM, of course, would not have yielded the tachyarrhythmia and epilepsy diagnoses unmasked by the implantable loop recorder, but the main conclusion of the article relates to bradyarrhythmias in patients with unexplained syncope.

Although the authors reported no adverse events after implantation of the loop recorders, implantation is nevertheless more expensive, more invasive, more time consuming, and has possibly more associated risks than the performance of CSM. We feel, therefore, that to verify the important conclusion of the article the study needs to be repeated with the inclusion of supine and erect CSM as part of the conventional investigation strategy.

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Response

We appreciate the points raised in the letter to the Editor by Drs Carey and Potter. There has been growing appreciation of the value of supine and, in particular, upright carotid sinus massage (CSM) since the inception of the RAST trial1 with the publication of several articles, in particular that of Morillo et al.2 CSM is a useful, provocative tool but is not without limitations, including the usual issues of sensitivity and specificity and rare neurological consequences.3 Unfortunately, this aspect of the baseline clinical assessment was not formalized prior to the onset of the RAST study. It may be that some of the patients in whom bradycardia was detected may have been diagnosed by less invasive means. However, 8 of the 17 patients with bradycardia had AV block, a rhythm less likely to be detected by CSM. In addition, recording the ECG during spontaneous symptoms is arguably a more accurate diagnosis than interpretation of a provoked response. Based on the growing recognition of the role of CSM in syncope patients, supine and upright testing have been included in the baseline assessment in the currently enrolling multicenter clinical trial that is based on the RAST results. Clearly, a thoughtful clinical and noninvasive assessment is indicated in syncope patients prior to consideration of implantation of a loop recorder, including carotid sinus massage.

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