

Editorial Comment

Syncope with Heart Disease - Provoke and See or Wait and Watch ?

Raja J. Selvaraj

Jawaharlal Institute of Postgraduate Medical Education and Research

Address for Correspondence: Raja J. Selvaraj, Associate Professor, Department of Cardiology, JIPMER, Puducherry - 605006, India. Email: rajajs@gmail.com

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Syncope is common in the young, but is usually reflex syncope and has a benign outcome except in the setting of structural heart disease which is uncommon in this age group. After decreasing in adulthood and middle age, incidence of syncope again peaks in older patients [1] where it is more often a multifactorial problem that can be associated with significant morbidity and is difficult to manage.

Two important natural history lessons from previous studies are that syncope recurrence itself is low and that the most important predictor of morbidity and mortality is the presence of underlying heart disease [2]. In this issue of the *Journal*, Aslam et al [3], while presenting their experience with 182 patients with syncope and heart disease, first of all reinforce these two facts. The mortality during follow up in patients with syncope and heart disease is not insubstantial and syncope recurrence, while low, is associated with significant morbidity, especially in the elderly in whom it may provoke loss of confidence and fear of falling [4]. Therefore evaluation of the cause of syncope and prognosis is important.

More than 50% of patients have no identifiable cause after the initial investigations and there are two major approaches to further evaluation. One approach is to provoke abnormalities during an electrophysiology study (EPS) and the other is to observe with prolonged electrocardiographic monitoring. Much interest has focused recently on the use of implantable loop recorders (ILR) for prolonged monitoring. This approach has resulted in a high detection rate of the cause of syncope [5, 6] and it can be argued that it continues to be underutilized in the evaluation of these patients as it appears to be in this study. The issue, of course, is that one has to wait for the next episode of syncope which may not be advisable in high risk patients. The alternative approach of EPS finds less favour with most physicians for a couple of reasons. Firstly, the yield in patients without structural heart disease is too low and secondly, many patients with heart disease would be candidates for implantation of a defibrillator and an EPS would not add further information in this case.

In this study, Aslam et al [3], put the spotlight back on EPS in the evaluation of patients with syncope, reminding us again that it remains a valuable investigation in selected patients with structural heart disease. It appears that the solution is to judiciously combine both approaches in the evaluation of patients with syncope. In patients without structural heart disease and with a normal electrocardiogram, EPS has no role while ILR provides a high detection rate. In

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patients with structural heart disease, with ejection fraction less than 30-35%, direct ICD implantation may be considered. With a higher ejection fraction, EPS may be useful, especially in patients with ischemic heart disease where a negative EPS has a high predictive value for good prognosis. However, in patients with non-ischemic cardiomyopathy and in those with bundle branch block [7], the negative predictive value of EPS is not high. Such patients with a negative EPS would perhaps still benefit from extended monitoring with an ILR.

References

1. Soteriades ES, Evans JC, Larson MG, Chen MH, Chen L, Benjamin EJ, Levy D. Incidence and prognosis of syncope. *N Engl J Med* 2002; 347:878 – 885.
2. Ungar A, Del Rosso A, Giada F, Bartoletti A, Furlan R, Quartieri F, et al. Early and late outcome of treated patients referred for syncope to emergency department: the EGSYS 2 follow-up study. *Eur Heart J* 2010;31:2021-6.
3. Aslam R, Girerd N, Brembilla-Perrot B. What is the utility of electrophysiological study in elderly patients with syncope and heart disease? *Indian Pacing Electrophysiol J* 2015; 15:32-42.
4. Ungar A, Mussi C, Del Rosso A, Noro G, Abete P, Ghirelli L, Cellai T, Landi A, Salvioli G, Rengo F, Marchionni N, Masotti G. Diagnosis and characteristics of syncope in older patients referred to geriatric departments. *J Am Geriatr Soc* 2006;54:1531 – 1536.
5. Krahn A, Klein GJ, Yee R, Skanes AC. Randomized assessment of syncope trial. Conventional diagnostic testing versus a prolonged monitoring strategy. *Circulation* 2001; 104:46 – 51.
6. Farwell D, Freemantle N, Sulke N. The clinical impact of implantable loop recorders in patients with syncope. *Eur Heart J* 2006; 27:351 – 356.
7. Brignole M, Menozzi C, Moya A, Garcia-Civera R, Mont L, Alvarez M, Errazquin F, Beiras J, Bottoni N, Donato P; International Study on Syncope of Uncertain Etiology (ISSUE) Investigators. Mechanism of syncope in patients with bundle branch block and negative electrophysiological test. *Circulation* 2001;104:2045 - 2050.