Usefulness of implantable loop recorder in diagnosing unexplained syncope

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Background Procedure of implantable loop recorder (ILR) increased rapidly in evaluation of unexplained recurrent syncope. We aimed to examine the diagnostic utility of ILR in detection of arrhythmic cause of unexplained syncope.

Method We reviewed the recurrent syncope, syncope related to arrhythmic cause, ILR guided therapy after ILR implantation in patient with recurrent syncope of unknown origin after conventional diagnostic examination retrospective multicenter study.

Results One hundred and sixty patients [age 65.7 ± 15.5; 97men (60.2%)] with syncope of unknown etiology after conventional diagnostic examination underwent ILR implantation from February 2006 to April 2018. During a mean follow-up of 301.2±348.1days, 109 patients (67.7%) had recurrent syncope. ILR guided diagnosis during syncope was made in 70 patients (43.5%). Among these patients, ILR analysis showed that sinus pause in 51 patients (72.9%), sudden AV block in 6(8.6%), SVT in 1 (1.4%), AF c SVR in 2(2.9%), AF c RVR in 6(8.6%), VT in 4(5.7%), VF in 1(1.4%). 53 patients (32.9%) received a pacemaker, 5 (3.1%) patients received a ICD, 4(2.5%) patients received RFCA, 10 (6.2%) patients received medical treatment. Atrial fibrillation (HR 2.58, 95% CI 1.46-4.56, p<0.01), any bundle branch block (HR 2.71, 95% CI 1.21-6.06, p=0.01) were significant in pacemaker therapy guided by ILR in multivariate analysis.

Conclusion ILR was valuable in detecting arrhythmic cause of unexplained recurrent syncope and managing the underlying reversible cause of syncope.