Diagnostic usefulness of implantable loop recorder in patients with unexplained syncope

YUN YOUNG CHOI  
Jong-Il Choi  
Jaemin Shim  
Yun Gi Kim  
Kwang-No Lee  
Ki Yung Boo  
Do Young Kim  
Ha Young Choi  
Young-Hoon Kim Kim

**Introduction**: In substantial proportion of syncope, exact cause is not identified because it is difficult to document ECG correlated with event. Thus, an implantable loop recorder (ILR) was introduced for diagnosing with hidden arrhythmia, however, its clinical use is still limited number. We aimed to assess the diagnostic value of ILR for unexplained syncope.

**Methods**: Between May 2016 to June 2019, all consecutive patients who underwent ILR implantation were studied. We analyzed the electrocardiogram stored in the device.

**Result**: Among 57 patients (32 male, mean age 52±20 years old) with unknown causes of syncope, during two years follow-up, arrhythmia was detected in sixteen patients (28%). Thirteen (22.8%) patients received permanent pacemaker implantation due to symptomatic bradycardia, and all of the arrhythmia was detected between 1 months and 21 months. Eight patients (14%) showed sick sinus syndrome (5 long pause ; 3 tachycardia-bradycardia syndrome). Five patients (8%) had paroxysmal atrioventricular block. One of the patients with permanent pacemaker implantation was positive in the tilt table test. Two patients underwent radiofrequency catheter ablation for paroxysmal supraventricular tachycardia and atrial fibrillation. The mean duration of the first event was 170 days.

**Conclusion**: This study showed that ILR monitoring detected substantial number of significant bradycardia in patients with unexplained syncope, suggesting that it is an effective diagnostic method that allows to shorten the time for identifying arrhythmic causes.