Topic: 4. Arrhythmias**External 30 Days Holter Usefulness in Unexplained Syncope, Palpitations and Cardioembolic Suspected Cryptogenic Stroke Study**

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Keywords: external Holter, syncope, palpitations, atrial fibrillation, cryptogenic stroke

Introduction and Objectives

The more time the heart rhythm is evaluated, the more rhythm disturbances are diagnosed in patients with syncope, palpitations or cryptogenic stroke. Increasing from 24–48h to 30 days with external holter allows further registering cardiac rhythm without invasive and expensive techniques such as ILR (implantable loop recorder). Moreover, it allows evaluating the whole continuous electrocardiographic register. Our aim is to evaluate the cost- effectiveness of the external 30 days Holter *Nuubo nECG PLATFORM* (H30D) in palpitations, syncope and cardioembolic suspected cryptogenic stroke study in diagnose of bradyarrhythmias and taquiarrhythmias.

Materials and Methods

A retrospective analysis of H30D dispositives from September 2016 to May 2017 is performed. Indication, demographic variables, complementary studies, time to event, diagnostic, therapeutic management, follow-up and nurse support to resolve doubts were collected.

Results

28 patients were enrolled, 40 % women, median age 77 years (interquartile range (IQR) 70-83). The most frequent indication was syncope (82 %), followed by palpitations. Since April 2017, the indication was widen to cryptogenic stroke study therefore, 2 patients with this indication were enrolled as well. In 100 %, an echocardiography and, at least, 24h monitoring rhythm were performed. In syncope indication patients, basal rhythm was sinus rhythm in 82 %. 18 % of the patients had bifascicular block and 4 % left bundle branch block. In syncope patients, carotid sinus massage and orthostatic test were performed in 17 % and 22 % of cases , respectively, all of them negative. Tilt test was performed in 18 % (50 % positives and 50 % negatives).

In cardioembolic suspected stroke patients indication (2 patients), supra-aortic trunks ultrasound was performed and transoesophageal echocardiography was performed in one of them.

Cardiac rhythm register was obtained in 92 % (IQR 88-97 %) of the days and allowed to analyze 91 % (84-95 %) of the time. A conclusive diagnostic (electrocardiographic register and study event presence) was obtained in 36 % of the patients: 2 patients with palpitations (atrial tachycardia and supraventricular tachyarrhythmia), 7 patients with syncope (5 bradyarrhythmias, 2 vasovagal syncopes) and one patient with asymptomatic atrial fibrillation in one cardioembolic suspected stroke. A probable diagnose was considered in two more patients (rising to 43 % the total success). This avoided the ILR implantation and one pacemaker replacement. The median time to study event appearance was early: 10 days (IQR 4-18) and the median follow-up time was 40 days (IQR 11-123). There was not any complication.

According to the early time event appearance (10 days) and 60 % of nurse telephone support requirement in first 20 patients, a weekly telephone call by nurse was implemented. 78 % of doubts were resolved by nurse. The dispositive was well tolerated, without any complication.

Conclusions

External 30 days holter monitoring is a useful and cost-effective dispositive in syncope and palpitation study due to its non-invasive collocation and patient's comfort. It is useful to diagnose the cardiac etiology of the symptoms, and non-cardiac as well. It may be useful in cryptogenic stroke study but this must be validated in a huge number of patients. According to the early detection of events, 30 day monitoring should be considered before ILR implantation. ■

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