Syncope and Bradycardia - Epidemiology, Prognosis, Outcome

The presence of symptons and symptom-rhythm correlation in patients with Implantable loop recorders

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INTRODUCTION: Implantable loop recorders (ILR) are a powerful diagnostic tool for heart rhythm diseases, and particularly useful when symptoms are infrequent or when long-term data are required. The main indication is for study of syncope/presyncope due to suspected cardioinhibitory etiology.

OBJECTIVE: To evaluate the diagnostic profitability of ILR in patient (P) with syncope/ presyncope and to evaluate the effect of symptons on follow-up.

METHODS: Included P undergoing ILR implantation in 6 consecutive years, to study syncope/presyncope. Information was collected on P characteristics, indication, diagnostic outcome and subsequent management and complications. A follow-up (FU) of 1 year and 3 years were done. Diagnostic outcome was based in symptom-rhythm correlation. Symptons and correlation to ECG during the FU and management after the diagnosis were assessed.

RESULTS: 99 P were selected. Evaluation of syncope in 91.9% (n = 91) and presyncope in 8.1% (n = 8). 54.5% female, median age 59.4 ± 17.4 years. 55.8% (n = 53) completed the 3 years FU and 84.2% (n = 80) completed the 1 year FU. Death occurred in 4% (n = 4) during the FU. ILR results led to device implantation in 35% of the P (22 pacemakers and 1 ICD) in 1 year FU, with a median time to implantation of 11.6 months after ILR, and the majority of ILR motivated by syncope (87%). If we consider only P that finished the 3 years of FU, in 47.2% P were implanted a device. The most common arrhythmic finding were AV block (47.8%), followed by sinus pauses / asystole (43.5%), AF with slow ventricular rate (4.3%) and VT (4.3%). 4.9% of P experienced a complication related to the device (2 infection and 3 non-infectious pain), that resulted in explantation. 60.9% of the P were symptomatic during the FU, with 24.1% achieving symptom-rhythm correlation and 36.8% who did not. Device implantation was associated with the presence of symptons in FU (82.6% vs 17.4%, p = 0.012) and symptom-rhythm correlation (95% vs 5%,p = 0.001). 38.7% (n = 27) of the P finished the 3 years of FU without a diagnostic outcome or detectable event, with 44.4% being assymptomatic and 55.6% presenting symptoms without ECG correlation. Compared to the P that implanted a device, this type of P was frequently of female sex (57.6% vs 30.4%, p = 0.045), younger age (54.8 ± 18.1 vs 65.8 ± 12.8 years, p = 0.014), with less cardiovascular risk factors like dyslipidemia (37.0% vs 78.3%, p = 0.003) and arterial

hypertension (48.1% vs 73.9%, p = 0.05), AF (0% vs 19%, p = 0.025), previous history of myocardial infarction and percutaneous coronary intervention (3.2% vs 17.4%, p = 0.05; 3.0% vs 21.7%, p = 0.028) and more frequently with history of depression (51.9% vs 22.7%, p = 0.037).

CONCLUSION: In this study, ILR monitoring led to a device implantation in 47.2% of the P that finished the 3 years FU. The presence of symptons and symptom-rhythm correlation during FU was associated with device implantation.

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