blood pressure and heart rate for proper cerebral perfusion. The prognostic outlook for patients with vasovagal syncope is usually favourable, but a patient subgroup presents episodes that are accompanied by severe bradycardia and even asystole, which are often not preceded by prodromic symptoms. This variety is called malignant vasovagal syncope, as it has a significant morbidity rate. The possible role of cardiac stimulation in preventing the development of syncopal episodes by avoiding long ventricular pauses is not well defined, due to contradictory results having been obtained from the first studies elaborated in this field.<sup>1</sup> Some authors believe that some of the benefits observed in studies of permanent cardiac stimulation could have been due to the placebo effect, but the debate continues.<sup>2,3</sup>

We present the case of a 38-year-old woman admitted for the implantation of an insertable Holter or cardiac event recorder (Reveal Plus®, Medtronic Ibérica SA) due to a history of recurring syncopic events and the established diagnosis of malignant vasovagal syncope. The patient was diagnosed with a non-toxic goitre, she worked as a domestic assistant and was not taking any medications. The basal electrocardiogram was normal and there was no indication of structural heart disease. For more than 5 years, she had experienced sudden losses of consciousness and postural tone, with spontaneous recovery without after-effects in several minutes, and without prodromes, although with some episodes she experienced nausea. There were no trigger factors for the events, and in recent months the syncopes had occurred weekly or even daily. Two years previously, she underwent a tilt table test, with a positive result, and type 2B, cardio-inhibitory with asystole<sup>4</sup> was confirmed, in the third minute of the tilt phase without nitroglycerine, by an asystolic period of 13s. Given the findings described, with a neuromediated mechanism, severe cardio-inhibitory response, and the non-response to medication or hyper-hydration, as well as the lack of prodromes, she was presented with the possibility of cardiac stimulation therapy. Given this choice, she asked to have an insertable Holter implanted to corroborate the findings from the tilt table and also to increase the effectiveness probability of permanent stimulation.<sup>1</sup> The implantation of the device was uneventful, and when she was discharged, she was recommended to live her life normally. Periodic clinical sessions for follow-up and checking the device were established, and after 1 year under observation, the patient has not experienced any syncopal episodes, nor have there been any specific findings in the device readings. The patient has been living normally and at this time no medication has been prescribed.

The possibility that the beneficial effect to some patients with cardio-inhibitory vasovagal syncope, through the implantation of a pacemaker, is at least partly due to the placebo effect is magnificently illustrated in the present case. It is evident that the implanted device has no physical

## The Implantable Holter Monitor and Vasovagal Syncope: A Diagnostic Tool With a Therapeutic Effect?

## To the Editor:

Vasovagal or neurocardiogenic syncope is the most common form of reflex syncope. In this case, the final syncope mechanism is the sudden shut-down of the autonomic nervous system to maintain the minimum effect on the pathophysiologic mechanism that induces syncope; however, the absence of new episodes following the implant was immediate and consistent throughout the follow-up. Nevertheless, from a methodological standpoint, whether or not there may be a placebo effect should be the result of controlled studies, and all the more so if we consider the high frequency with which these patients suffer syncopal episodes. Obviously, the hypothesis that certain patient subgroups would also be able to benefit from the effects of permanent stimulation is not exclusive, and the results from new studies will contribute to corroborating that hypothesis.<sup>5</sup> On the other hand, given what we observed in our patient, and that the monitored cardiac rhythm during spontaneous syncopal episodes does not correlate perfectly with the results from non-invasive tests such as the TTT or the ATP test, the implantation of an event recorder may be beneficial in those patients with cardio-inhibitory vasovagal syncope who are given the possibility of cardiac stimulation.

> Miguel A. Arias, Irene Valverde, Alberto Puchol, and Luis Rodríguez-Padial

Unidad de Arritmias y Electrofisiolofía Cardiaca, Servicio de Cardiología, Hospital Virgen de la Salud, Toledo, Spain.

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