VIA MEDICA

IMAGE IN CARDIOVASCULAR MEDICINE

Cardiology Journal
2023, Vol. 30, No. 1, 161–162
DOI: 10.5603/CJ.2023.0012

ISSN 1897–5593
eISSN 1898–018X

Early and late asystole after loop recorder implantation: Misdiagnoses and unexpected diagnostic opportunities

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An 84-year-old (case 1) and a 79-year-old patient (case 2) were implanted with a Medtronic Reveal LINQ™ in the context of an unexplained syncope of suspected arrhythmic origin.

Case 1. Three pauses up to 7 s were recorded 6 h after implant, without associated symptoms. The electrocardiograms documented an "asystole" with an abrupt disappearance of the QRS complexes (Fig. 1A).

Case 2. The 6-week post implant Reveal interrogation revealed 57 pauses, of up to 10 min occurring mainly at night and corresponding to prolonged phases of apparent asystole (Fig. 1B).

In both cases, an artifact was deemed most likely, based on the absence of RR interval variations both before and after the suspected asystole (Fig. 1A, B, lower panel). In the first case, considering the temporal clustering early after implant and the absence of recurrence thereafter, the artifacts were interpreted as the consequence of a loss of contact between tissue and device because of either hematoma or air entrapped in the pocket, possibly favored by a loose pocket. In the second case, the clustering of episodes at night suggested that artifacts were somehow related to phases of sleep apnea possibly due to changes in intrathoracic impedance causing a QRS amplitude reduction. A polysomnography confirmed obstructive sleep apnea syndrome and pauses did not recur after continuous positive airway pressure therapy.

Recognition of false asystoles in the early phase of monitoring is critical in avoiding inappropriate pacemaker implantation. False asystoles observed later may instead reveal occult sleep apnea depending on their circadian distribution, but specific studies are required to confirm this hypothesis.

Conflict of interest: None declared

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Received: 19.04.2022 Accepted: 19.10.2022

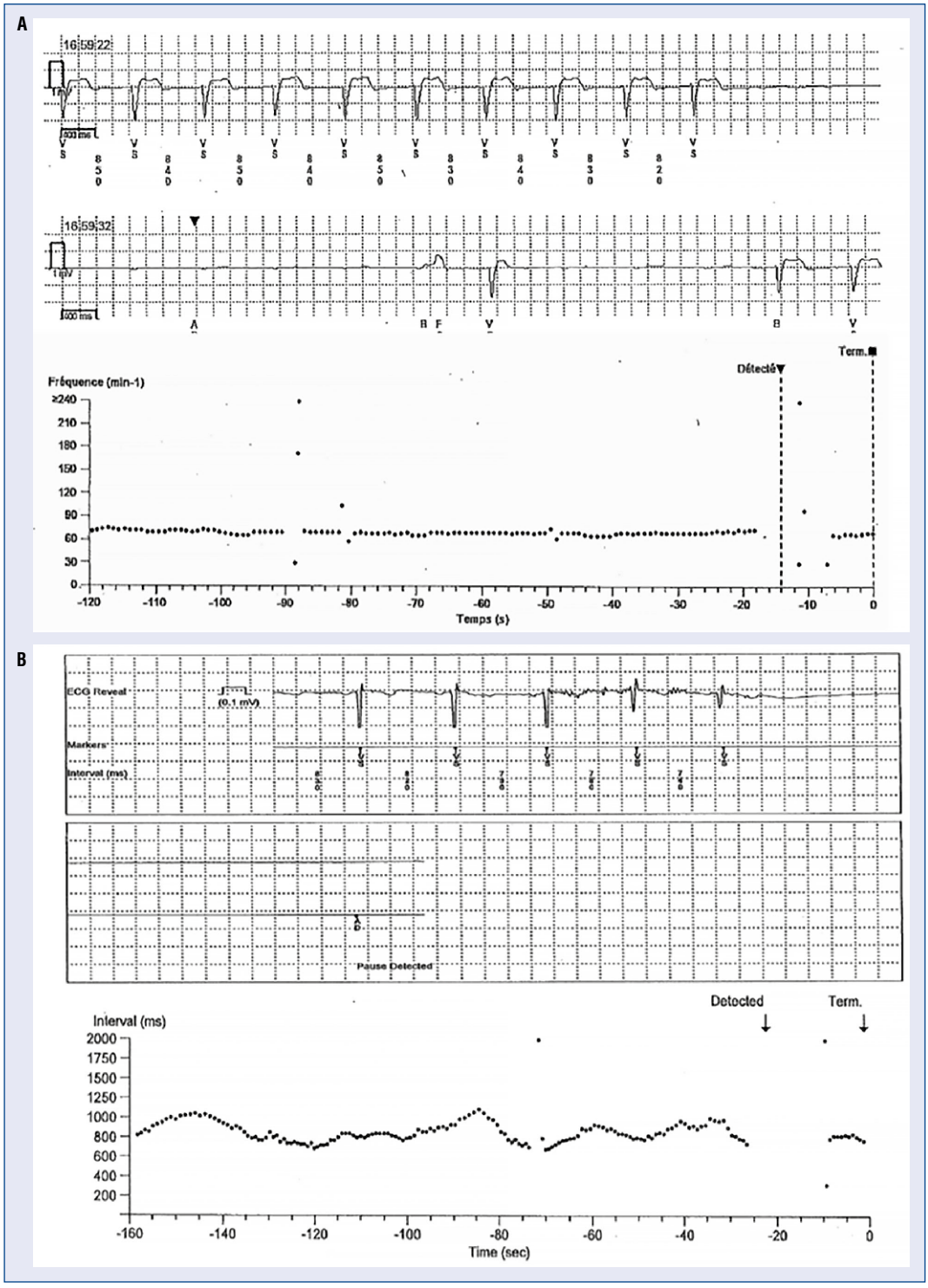

Figure 1. Electrocardiogram recordings and corresponding RR interval plots; **A.** Case 1; **B.** Case 2.