Atrial standstill due to extensive atrial fibrosis


A 64-year-old patient without cardiovascular disease was implanted an internal loop recorder (ILR) due to recurrent syncope. Two months after implantation, an atrioventricular block III' (Figure) was recorded during which the patient was asymptomatic.

A problem with older ILR was false asystole detection because of a high contact impedance and the subcutaneous injection technique leads to a tighter tissue contact. Nevertheless, close examination of the transmitted rhythm strip and clinical background information revealed inappropriate AV block detection in a Reveal Linq device. The RR interval is exactly the same between normal appearing QRS complexes and the complexes with abruptly reduced signal amplitude, suggesting an abrupt rise in electrode – tissue impedance, almost creating a loss of contact situation. In an adult without rate slowing medication, acceleration of the PP intervals would be suspected if a real AV block was present. Furthermore, the baseline jump at the beginning and the end of the episode is offset due to voltage variation. Finally, the patient was completely asymptomatic during this episode.

Thus, an implantation of a pacemaker in our patient would have been inappropriate.

The full-length version of this report can be viewed at: http://www.escardio.org/Guidelines-&-Education/E-learning/Clinical-cases/Electrophysiology/EP-Case-Reports.