We report the case of a 87-year-old woman, without history of significant cardiovascular diseases, referred to our emergency department because of sudden syncope. Just after being admitted, the patient experienced another sudden syncopal event and a paroxysmal complete atrio-ventricular (AV) block with narrow QRS complexes (Panel A) was documented. After few seconds, sinus rhythm resumed spontaneously. Her baseline ECG showed normal PR, QRS, and QT interval (Panel B) and no electrolyte abnormalities were revealed.

In order to evaluate AV conduction, an electrophysiologic (EP) study was performed. During EP study, the baseline HV interval was 45 ms. No sustained ventricular arrhythmias were induced by programmed ventricular stimulation. Ajmaline (1 mg/kg IV over 5 min) was administered to try to prove the presence of infrahisian conduction disease and during the infusion appearance of ECG pattern Brugada type I was observed in the right precordial leads (Panel C). Unexpectedly, the HV interval after ajmaline remained below 60 ms. On the basis of clinical history and no inducible ventricular arrhythmias during the EP study a pacemaker implantation was performed.

Diagnosis of Brugada syndrome in the elderly is always unexpected and undesired and its management still remains controversial. In this case, the therapeutic decision was simple guided by patient’s clinical history and documentation of AV block. Nevertheless, the major impact of the diagnosis of Brugada syndrome in this setting concerns the family members who should undergo further evaluation.