
CARDIOVASCULAR FLASHLIGHT

Subcutaneous implantable cardioverter-defibrillator and drug-induced Brugada syndrome: the importance of repeat morphology analysis during ajmaline challenge

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We report the case of a 65-year-old female without history of significant cardiovascular diseases, referred to our institution because of sudden cardiac arrest due to ventricular fibrillation. At the time of admission, no structural abnormality or coronary artery disease was documented. Her baseline ECG showed normal PR, QRS, and QT interval (Panel A) and signs of early repolarization in infero-lateral leads (Panel A, asterisks). An ajmaline challenge (1 mg/kg over 5 min) was then performed and during the drug infusion appearance of Brugada type 1 ECG was observed in the right precordial and inferior leads (Panel B, arrows). In order to screen the patient as potential candidate to subcutaneous implantable cardioverter-defibrillator (S-ICD) implantation, a morphology analysis of QRS and T wave was performed in both standing and supine position. Two of the three sense vectors were appropriate (II and III); the other sensor vector (I) was not acceptable due to high amplitude of the T wave (Panel C). The morphology analysis was repeated during ajmaline administration (Panel D) and the previously appropriate sense vectors were no longer acceptable when the coved-type ECG appeared. Owing to the lack of consistency of an appropriate sense vector both at baseline and during ajmaline challenge, a transvenous single-chamber ICD was implanted.

To date, no information is available on S-ICD morphology analysis in patients with Brugada syndrome and normal baseline electrocardiogram. Repeat analysis during ajmaline challenge could be useful in this category of patients to evaluate the appropriateness of S-ICD indication and avoid inappropriate shocks.

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