

### MP4-3

#### S-ICD registry in European paediatric and Adult patients with congenital heart defects: preliminary results of the SIDECAR project.

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**Introduction:** Use of the subcutaneous implantable cardioverter-defibrillator (S-ICD) to prevent sudden cardiac death is increasing. Few data exist on S-ICD in young patients. We report preliminary data from a multicenter European registry of paediatric and young adult patients who underwent S-ICD implantation

**Methods:** Observational, prospective, non-randomized, standard-of-care study on S-ICD implantation/follow-up in young patients with inherited arrhythmias (IA), cardiomyopathies, and congenital heart defects (CHD). 27 patients (11 CHD, 14 Cardiomyopathies, and 2 IA), mean age  $17 \pm 6$  years, 11 of them  $<18$  years, with body mass index (BMI)  $23.5 \pm 4.5$ , underwent S-ICD implantation (primary prevention 69%). The first 8 patients underwent a standard implantation procedure (three surgical incisions), the following 19 (70%) a two-incision procedure.

**Results:** No intraoperative complications occurred. Over the 17 months median follow-up (25th–75th percentiles, 5–35) 3 patients (11%) received appropriate and 2 (7%) inappropriate shocks. Four patients (15%) had device-related complications requiring surgical intervention: three skin erosions at the superior parasternal incision, one pocket infection. A higher risk of complications was seen in patients who underwent standard procedures [hazard ratio (HR) 14.7, 95% confidence interval (CI) 2.34 to 93.03;  $P = 0.001$ ] and those with BMI  $<20$  (HR 11.06, 95% CI 1.01–121.07;  $P = 0.008$ ).

**Conclusions:** These preliminary results of a multicenter European paediatric registry suggest that S-ICD is safe and effective with low rates of inappropriate shocks. Improvement of implantation techniques seems associated with better outcome

