Combined subcutaneous implantable cardioverter defibrillator and pacemaker devices in complex congenital heart disease. A single-center experienced based study.

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Abstract

Background: Subcutaneous implantable cardioverter defibrillators (S-ICD) are widely accepted therapy in congenital heart disease (CHD) patients at risk of life-threatening ventricular arrhythmias or sudden cardiac death (SCD) when pacing is not required. Occasionally, pacemaker (PM) dependent CHD patients will subsequently develop an indication for a cardioverter defibrillator. The use of S-ICD in complex CHD who have had already PM devices implanted implies some specific considerations, as the safety for these patients in unknown and recommendations among physicians may vary widely. **Methods:** We review the data and studied the indications for S-ICD in complex CHD with previous PM and discuss its usefulness in clinical practice. **Results:** From a large cohort of 345 patients enrolled in the S-ICD *"Monaldi care"* registry, that encompass all the patients implanted in the Monaldi Hospital of Naples, we considered 11 consecutive complex CHD patients (10M/1F aged 40.4±18.4 years) who underwent S-ICD implant after a previous PM implant, from February 2015 to October 2022. Mean follow-up was 23.7±22.5 months. All the patients showed a good compliance to the device system with no complications (infections or skin erosions). **Conclusions:** In complex CHD with already implanted PM devices, S-ICD implant appears to be a safe alternative to PM upgrading to transvenous ICD system, avoiding abandoned leads or life-threatening lead extraction. However, there are important issues with regards to testing and programming that need to be addressed at the time of implantation.

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