Abstract: P1148

Multicenter experience with the second generation of subcutaneous implantable cardioverter defibrillator and intermuscular two-incision implantation technique: safety and efficacy

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Background: The recently developed new generation of S-ICD and the intermuscular two-incision implantation technique demonstrate potential favourable features reducing inappropriate shocks and complications. However, data concerning large patient populations are lacking.

Purpose: The aim of this multicenter prospective study was to evaluate the safety, efficacy and outcome of the second generation S-ICD using the intermuscular two-incision technique in a large population study.

Methods: The study population included 101 consecutive patients (75% male, mean age 45±13 years) who received second generation of S-ICD implantation using the intermuscular two-incision technique as an alternative to the standard implantation technique.

Results: Twenty-nine (29%) patients were implanted for secondary prevention. Twenty-four (24%) patients had previously transvenous ICD implanted. All patients were implanted without any procedure-related complications. Defibrillation test was performed in 80 (79%) patients and ventricular tachycardia was successfully converted at =65 J in 98.75% (79/80) of patients without pulse generator adjustments. During a median follow-up of 21±10 months, no complications requiring surgical revision nor local or systemic device-related infections were observed. Ten patients (9.9%) received appropriate and successful shocks on ventricular arrhythmias. Three (2.9%) patients experienced inappropriate shocks for oversensing of cardiac signal (n=1), non-cardiac signal (n=1) and combination of both cardiac and non cardiac signal (n=1), with one patient requiring device explantation. No patients required device explantation because of antitachycardia pacing indication.

Conclusions: According to our multicenter study, second generation S-ICD implanted with the intermuscular two-incision technique is a safe and effective combination potentially reducing complications including inappropriate shocks.