

## *Images in Congenital Cardiac Disease*

# A technique to overcome high defibrillation thresholds for an implantable cardioverter defibrillator

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A 25-YEAR-OLD WOMAN WITH PREVIOUSLY REPAIRED Fallot's tetralogy, tricuspid valvar annuloplasty and implantation of a pulmonary valve, was referred for insertion of a new implantable cardioverter defibrillator on the right side. Six weeks earlier, infection with *Staphylococcal aureus* of her left-sided implantable defibrillator had been successfully treated by extraction of the complex lead, and aggressive antibiotic therapy. The lead was dual-coiled (Fig. 1), and had been implanted 3 years previously for syncopal ventricular tachycardia.

Despite placement of a single-coiled right ventricular lead in a variety of locations, including both apical and septal positions, as well as reversing its polarity and using both fixed-tilt and three different pulse width settings, the device failed, at both 25 and 36 joules, to cardiovert ventricular fibrillation induced by 50 Hertz pacing. Accordingly, a second coil was inserted into the distal left subclavian vein to change the shock vector (Fig. 2). This manoeuvre led to both successful induction of ventricular fibrillation, and cardioversion by the device at 25 joules.

Our experience demonstrates the efficacy of an additional left-sided coil to lower otherwise unacceptable defibrillatory thresholds of a right-sided implantable cardioverter defibrillator with a single-coiled lead.



Figure 1.

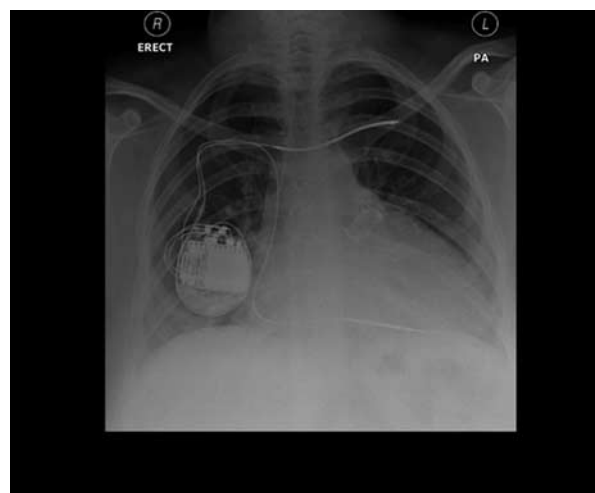


Figure 2.

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