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Images in Congenital Cardiac Disease

The use of the implantable cardioverter defibrillator as a bridge to paediatric cardiac transplantation

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A 4-YEAR OLD CHILD WAS TRANSFERRED TO OUR centre in severe cardiac failure. Echocardiography demonstrated severe left ventricular dysfunction, with an ejection fraction of 25%. This was attributed to idiopathic dilated cardiomyopathy after extensive investigations failed to establish any other aetiology. During the next three months, he suffered three episodes of decompensation despite optimal medical therapy, and was therefore listed for transplantation of the heart. One month later, he presented with a symptomatic episode of sustained ventricular tachycardia, and underwent implantation of a single coil transvenous lead connected to an implantable cardioverter-defibrillator placed in the left pectoral area (Fig. 1). At this time, he weighed 16 kilograms. One month after implantation, his defibrillator discharged appropriately in response to an episode of life-threatening ventricular arrhythmia. The patient underwent successful transplantation of the heart 8 months after the initial presentation, and has since been stable.

While implantable cardioverter defibrillators are an accepted bridge to transplantation in adults with cardiac failure, their use in children has been less widespread, despite the fact that arrhythmias constitute a major cause of mortality in young patients awaiting cardiac transplantation. Our experience demonstrates the feasibility of transvenous implantation of the lead, and the efficacy of an implantable cardioverter-defibrillator in one such, carefully selected, patient.

Figure 1.

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