Transaxillary sub-pectoral approach for cosmetic placement of implantable cardioverter defibrillators.

Corey Smith
Andrew Hopkins

Introduction: Implantable cardioverter defibrillators (ICD) are occasionally required in young patients. Particularly if body mass index (BMI) is low the standard infraclavicular placement may have an untoward cosmetic impact due to the incision scar or visible protrusion of the device. An alternative approach may allow an improved cosmetic outcome.

Methods: Implant technique: Under general anaesthesia the patient is prepped and draped with the left arm abducted to 90 degrees. A 5 cm incision is made in the axilla parallel to the lateral border of pectoralis major. The subcutaneous tissue is dissected down to reach the pectoralis major fascia and a submuscular pocket is created with blunt dissection. Venous access can be performed from within the pocket or percutaneously by Seldinger technique and tunneling the wires into the pocket. Leads are placed in a standard fashion and the generator is secured to the fascia. A Jackson-Pratt drain is placed in the pocket. The deep tissues are closed in two layers and interrupted sutures used to close the skin.

Result: We performed this technique for a 39 year old woman (BMI 21) referred for ICD implantation following a ventricular fibrillation cardiac arrest due to dilated cardiomyopathy. She expressed strong concern over the cosmetic appearance of a visible scar or device. The procedure was performed by the cardiologist in the catheterisation laboratory with anaesthetic support for general anaesthesia. There were no operative complications. The patient was discharged on postoperative day two. Lead parameters were stable on follow-up and the wound healed well. The patient reported satisfaction with the result.

Conclusion: This technique has previously been described having been performed in conjunction with plastic surgeons, as our case shows a transaxillary sub-pectoral ICD can safely be performed by the cardiologist in the catheterisation laboratory. The postoperative appearance is nearly imperceptible. This may result in improved satisfaction, especially for young female patients.