CASE IMAGE

Left apical hemothorax: A rare complication of device implantation

Sol apikal hemotoraks: Cihaz implantasyonunun seyrek görülen bir komplikasyonu

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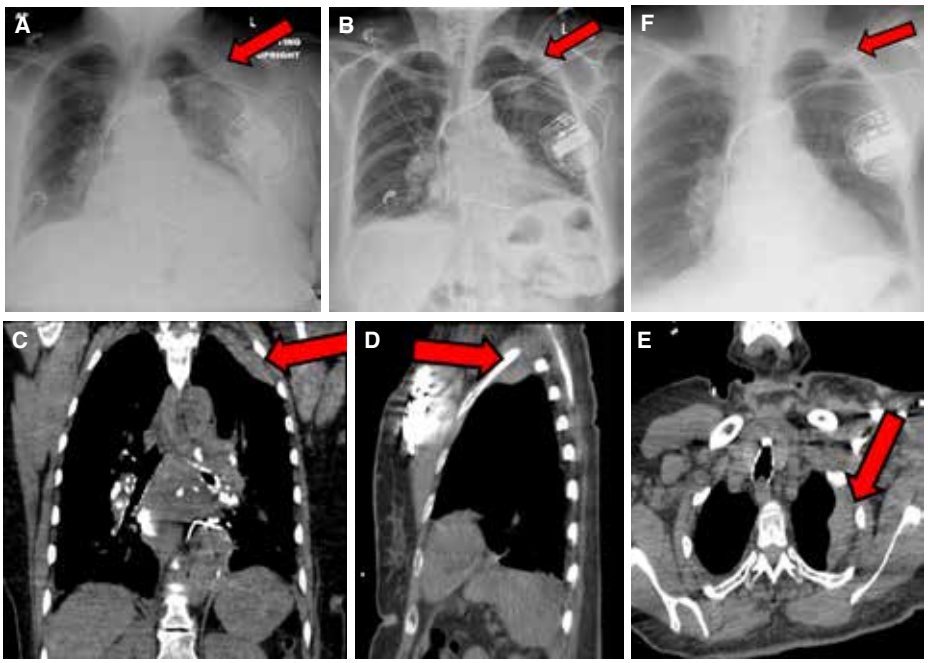
A 61-year-old African-American female with ischemic cardiomyopathy with left ventricular ejection fraction of less than 35% despite optimal, guideline-directed medical therapy; New York Heart Association Class III symptoms; and left bundle branch block with QRS duration of 138 milliseconds underwent atrio-biventricular implantation of implantable cardioverter defibrillator. Patient was taking 81mg aspirin daily, but was not on any oral anti-coagulants. After placing 2 guidewires in left cephalic vein for right ventricular and right atrial lead placement, we attempted to obtain left subclavian vein access for left ventricular lead placement. However, there was difficulty cannulating subclavian vein due to clavicular bone anatomy obstructing access. Venous access was initially attempted with micropuncture needle but was unsuccessful. At one point, micro-puncture needle entered subclavian artery, as evidenced by bright, red, pulsatile flow. Needle was carefully withdrawn and direct pressure was applied for 5 minutes to achieve hemostasis. Patient's vital signs remained stable. Subsequently, left axillary vein was accessed using micropuncture needle. Remainder of the case was uneventful and device was successfully implanted via left axillary vein. Patient tolerated the procedure well, and post-procedure vital signs were stable. She remained asymptomatic, specifically denying pleuritic chest pain and shortness of breath. Chest radiograph immediately after procedure (Figure A) showed opacity in pleural space superior to left lung apex. Repeat chest radiograph (Figure B) performed on post-operative day 1 showed slight decrease in previously described opacity. Computed tomography scan (Figure C, D, E) was obtained to further delineate this suspicious opacity which was suggestive of small blood accumulation in pleural space consistent with left, apical hemothorax. We suspected that combination of iatrogenic arterial injury and not applying enough manual pressure allowed blood to traverse directly into pleural space of left lung apex. Repeat chest radiograph obtained 1 month post-procedure showed almost complete resolution of the opacity (Figure F).



Figures– (A) Initial chest radiograph on post-operative day 0 immediately following device implantation. **(B)** Follow-up chest radiograph on post-operative day 1 following device implantation. Computed tomography scan of the chest performed on post-operative day 1. Fluid collection measured 7.0x5.2x2.9 cm with radiographic density of 60 Hounsfield units. **(C)** Coronal view, **(D)** sagittal view, **(E)** axial view. **(F)** Follow-up chest radiograph 1 month after device implantation showing resolution of the hematoma.