

# Bluish Discoloration of the Arm after Implantable Cardioverter Defibrillator Implantation

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## Abstract

Axillary-subclavian vein thrombosis is a relatively uncommon but potentially serious condition. Prior to 1967, thrombosis of axillary or subclavian vein accounted for 1-2% of all cases of deep vein thrombosis. Since then, the incidence has risen due to more frequent use of central venous access, pacemakers and more recently implantable cardiac defibrillators (ICD) and biventricular pacemakers. People with axillary-subclavian venous thrombosis usually have swelling of the affected arm with distended, prominent veins in the hand and forearm and prominent veins along the chest. Other possible signs are bluish discoloration and a tender prominent cord in the arm, axilla or neck. Occasional tingling or numbness of the arm and hand may be due to the pressure of edema rather than nerve damage. Early recognition of this potentially serious entity is critically important. All signs may not be present at the same time. We present a case where discoloration was the main clue.

A 75 year old female with history of dilated cardiomyopathy, left bundle branch block and an ejection fraction of 25 % underwent an ICD device implantation in the left pectoral area through the axillary vein approach, for primary prevention of sudden cardiac death. Ten days later, she presented with mottling of the skin and bluish discoloration and numbness of the left upper extremity from the arm down to the hand, manifested mostly after she takes a shower (Fig. 1). A Doppler ultrasound revealed the presence of acute deep venous thrombosis (DVT) of the left upper extremity at the level of the subclavian and axillary veins. Anticoagulation was initiated and the patient's condition improved.

## Figure 1

Figure 1: Patient extending both arms, showing mottling and bluish discoloration of the left arm, compared to the normal right arm.



Pacemakers, ICDs and more recently biventricular pacemakers are considered a safe treatment modality for many cardiac disease entities with recent growing use due to increased indications through appropriate guidelines. Rare but serious thrombotic and embolic complications are reported to occur in 0.6-3.5% of cases (1). Early recognition of this potentially serious disease is important, as prompt treatment needs to be initiated. There are different clinical symptoms and signs that can lead the patient or the physician to the diagnosis, of which arm edema might be the most prominent (2). More subtle signs can be the only clue as discoloration, as presented by a nice picture in our case.

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