# Pacemaker Twiddler's syndrome: an unusual form of pacing wire displacement

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Twiddler's syndrome is a rare form of pacemaker electrode displacement, characterized by rotation of the pulse generator on its long axis and subsequent coiling of the lead[1,2]. The coiling can occur either intracardially or else close to the generator, resulting in dislodgment or fracture of the electrode that usually migrates to the right atrium or the superior vena cava. Although rotation may occur spontaneously, in most cases conscious or subconscious pathologic manipulation of the device is the cause of the dislodgment. Besides loose and fatty subcutaneous tissue, even the size and weight of the generator may play an important role in the development of the syndrome, which was more frequent with old generation pacemakers.

We report the case of a 94-year-old woman, affected by Alzheimer's disease, who was admitted to our Center for permanent atrial fibrillation with a low ventricular rate and syncope.

A ventricular demand pacemaker was implanted: a flanged pacing lead was introduced via the left subclavian vein, positioned in the right ventricular apex and appropriately anchored to the pectoralis fascia; the pulse generator was placed subcutaneously in the left infraclavicular area.

One month after insertion of the pacemaker, the patient was referred to our Cardiology Unit for dizziness and severe asthenia.

Relatives revealed that after hospital discharge the patient, complaining of mild discomfort in the area of the pacemaker pocket, started to palpate the surgical scar, imparting an incessant rotating movement to the device.

An electrocardiogram documented undersensing and loss of capture by the pacemaker. An antero-posterior chest radiograph showed displacement of the pacing lead (Fig. 1): the whole lead was twisted into numerous coils around the pacemaker. The tip, however, was still inserted in the subclavian vein.

When the pocket was opened the suture sleeve of the lead was found to be firmly attached to the muscular fascia. Careful inspection of the electrode revealed that its insulation was still intact.

After having replaced and secured the lead with multiple sutures, the device

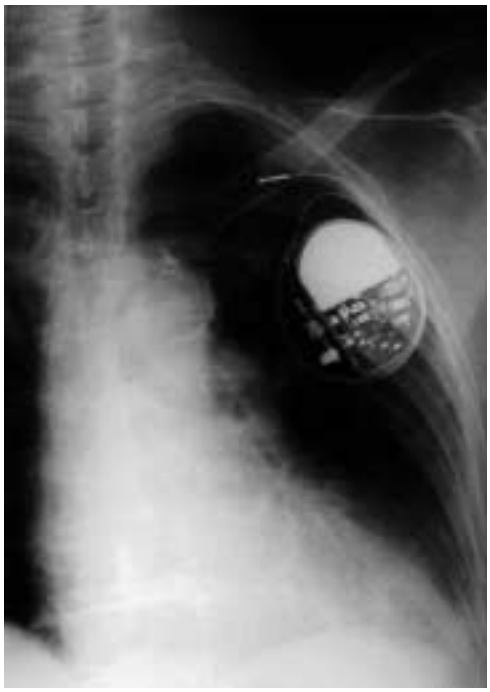

**Figure 1.** *The pacing lead is totally coiled around the pacemaker, except for the tip which is inserted into the subclavian vein.*

was positioned within a submuscular pectoral pocket.

Although rare, Twiddler's syndrome is a challenging complication that physicians should bear in mind when they implant pacemakers in elderly patients with lax subcutaneous tissues and with psychiatric diseases.

## References

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