Twiddler’s syndrome

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Twiddler’s syndrome results from pulse generator manipulation or from spontaneous rotation due to movement around an inadequately secured lead. In this article, we review the Twiddler’s syndrome and its clinical properties.

KEYWORDS
Twiddler’s syndrome, pacemaker

Twiddler Sendromu

ÖZET

Twiddler sendromu kalıcı kalp pili jeneratörünün, yetersiz tespitlenen elektrot etrafında, manipülasyon veya kendiliğinden dönmesi sonucu oluşan klinik sendromdur. Bu yazida Twiddler sendromu ve klinik özellikleri özetlenmiştir.

Anahtar Kelimeler
Twiddler sendromu, kalp pili

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Twiddler’s Syndrome

Figure 1 is a magnified portion of a standard chest X-ray from a patient who received a dual chamber pacemaker and presented with pacemaker failure several months later. The bipolar leads have been withdrawn from the heart and lie close to the pulse generator. One lead overlaps the other. There is obvious twisting of the leads characteristic of Twiddler’s syndrome. Figure 2 shows the operative findings typical of Twiddler’s syndrome.

Twiddler’s syndrome results from pulse generator manipulation or from spontaneous rotation due to movement around an inadequately secured lead. Twiddler’s syndrome is characterized by the coiling of the pacemaker lead due to the rotation of the pacemaker generator on its long axis. The patient, inadvertently or deliberately, turns and rotates the generator on its long axis and, because of traction, causes the lead displacement and retraction. Repeated twisting of the lead may result in fracture. Most patients with such a problem are middle-aged obese women whose surgical pocket is larger than the size of the generator together with the presence of loose subcutaneous tissue. In other words, this means a small-sized pulse generator relative to the size of the pocket. Dementia is a predisposing factor. Ipsilateral phrenic nerve can be stimulated, resulting in diaphragmatic pacing and sensation of abdominal pulsations. Even rhythmic arm twitching has been described, related to pacing the brachial plexus. Treatment includes the creation of a smaller pocket, and suturing the device to the fascia to provide adequate fixation and placing the pulse generator subpectorally. The use of a Dacron pouch designed to promote tissue growth and stabilization has not gained general acceptance or widespread use. The lead or leads should be replaced in the presence of marked twisting because of the likelihood of a lead fracture.

The Reel Syndrome

This is a form of Twiddler’s syndrome, occurs due to the rotation of the pacemaker generator on its transverse axis rolling the lead around the generator resulting in lead displacement. Chest radiography is crucial to diagnose this kind of complication by showing the lead
coiled around the pacemaker.

**The Ratchet Syndrome**

This occurs on the basis of a ratchet-like mechanism through the sewing sleeve. It is not a twiddler variant. As the patient moves the arm, the lead moves slightly towards the pulse generator with each movement. The lead travels through the sewing sleeve because the suture is not tied securely around the lead to prevent movement. This may affect only a single lead in a pacing system with 2 or 3 leads.

**REFERENCES**

