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Twiddler's Syndrome–A Case Report

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Abstract

Twiddler's syndrome is a rare condition characterized by permanent pacemaker dysfunction due to patient's own manipulation. It happens knowingly or subconsciously. Twiddler's syndrome is diagnosed in the first year of implantation. The pacemaker failure is due to lead displacement and loss of ventricular pacing. In this case report we would like to present a case of Twiddler's syndrome which was diagnosed ten days after pacemaker insertion.

Introduction

Twiddler's syndrome was first described by Bayliss in 1968 as a rare but potentially lethal complications of pacemaker insertion. Patients usually deny any pain or deliberate manipulation of the pulse generator. Continuous reeling of the leads around the generator will cause ipsilateral phrenic nerve to be stimulated and diaphragm will be paced subsequently causing abdominal pulsation. Further lead reeling will cause arm twitching as the brachial plexus is being paced [1].

Case Report

A 73-year-old female presented to our centre complaining of persistent twitching and sense of vibration of the left arm and upper chest. She has undergone a bypass surgery 14 years ago along with closure of sinus venosus and atrial septal defect secundum. A permanent pacemaker was inserted in early January after she was diagnosed with complete heart block [2]. Electrocardiogram on admission shows Left Bundle Branch Block (LBBB). Immediate interrogation of the device showed battery life was 8.5 years, left atrium impedance was 475Ω (ohm), right ventricle impedance was 600Ω (ohm), no sensing noted on the right ventricle while left atrium shows sensing more than 2.8mv. Fluoroscopy performed and noted that right ventricle lead was dislodged and there was a new subcutaneous pocket which is deeper and larger than the original. The pacemaker box and leads were disconnected and repositioned. The box was reattached and anchored to pectoralis major muscle

with non-absorbable suture. The deep pocket was closed and downsized using non absorbable sutures. Lastly the wound was closed in layers. The procedure was uneventful and the patient was subsequently discharged well (Figures 1 & 2).

Discussion

Twiddler's syndrome is a rare syndrome that found mainly in the elderly. Other risk factors associated with it such as having psychiatric illness, obese as well as female gender. Permanent dysfunction of the device is caused frequently by the lead displacement although diaphragmatic pacing might occur through the right ventricle perforations. Majority of Twiddler's syndrome were reported within the first year of implantation. In the case that we reported the patient was diagnosed Twiddler's syndrome within 10 days of pacemaker insertion. The earliest reported case was within 17 hours of insertion [3]. Although patient denies any self-manipulation, fluoroscopy shows a large self-created pocket that buried the pacemaker deep and causes lead displacement. Applying multiple dressing over the wound site might prevent device dislodgement. Some faculties do suggest the use of Dacron patch over the device in which overgrowth of tissues might secure the device better. In the case that we reported we downsized the deep pocket using sutures and anchored the pacemaker device on the pectoralis major muscle fibers using non-absorbable sutures. Prior discharge patient was also given proper education on pacemaker care in order to prevent recurrent Twiddler's syndrome [4-6].

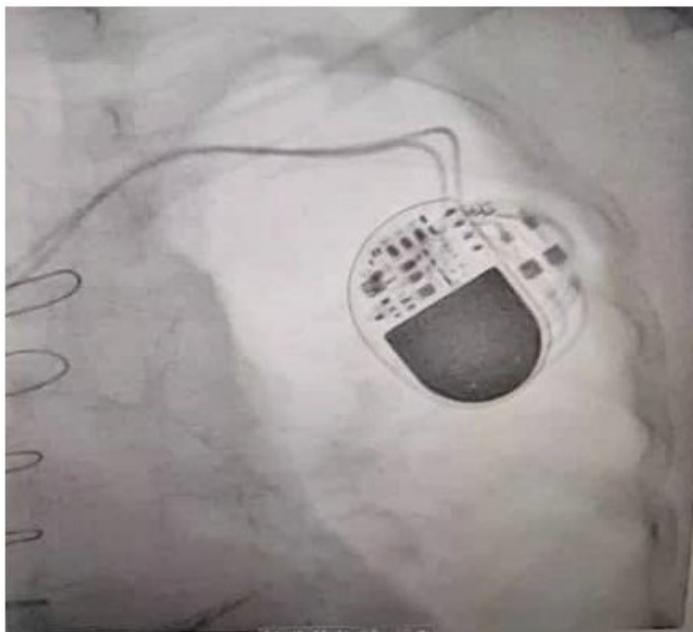


Figure 1: Fluoroscopy picture post ICD implantation.

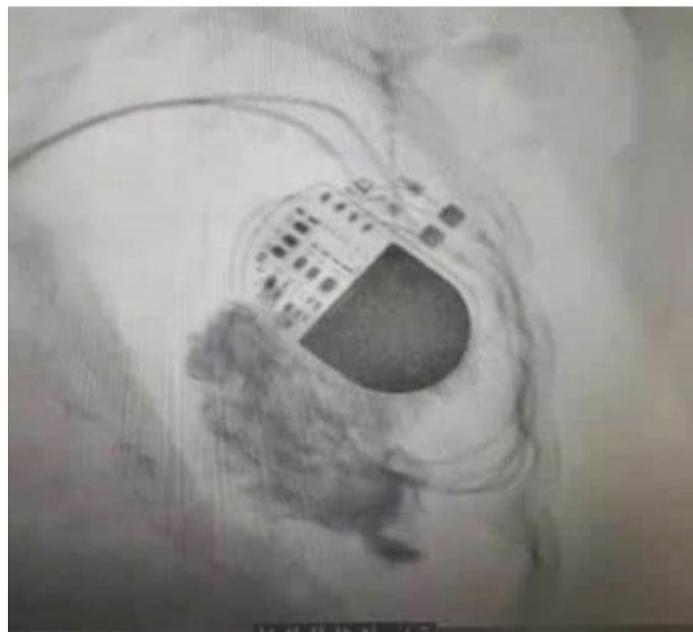


Figure 2: Fluoroscopy picture Showing contrast fill in the 'new packet' created by the patient.

Conclusion

Twiddler's syndrome is a rare condition that may be detrimental to the patients. It is a preventable condition given if only a small pocket is created, the device is properly fix to the underlying structures and proper education on pacemaker care is given to the patient.

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