

CASE REPORTS

PACEMAKER RELATED COMPLICATIONS

Irie Pervez, Muhammad Imran Asghar, Rehana Javaid, Hafsa Khalil

Armed Forces Institute of Cardiology/ National Institute of Heart Disease/ National University of Medical Sciences (NUMS)
Rawalpindi, Pakistan

ABSTRACT

Implanting pacemakers is associated with some complications which are not very common. A 60 years old female got PPM implanted two years ago. She was admitted many times with infection at pocket site. She had no co-morbidities. Antibiotics, drainage of infected material even change of site on same and opposite side of hemi thorax did not help. Finally, direct implantation of electrodes to heart surface through small mini sternotomy and placing PPM in rectus sheath worked. Lower ministernotomy proved to be a safe and valuable option for placing PPM, once other options fail.

Keywords: ASD, CRP, Infected pockets, PPM.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

CASE REPORT

A 60 years old female 2 years back reported to E/R with dizziness, altered sensorium. She was hypertensive, bradycardiac and diaphoretic. She was admitted to hospital and a Permanent Pacemaker (PPM) was implanted. She was presented with fever, infection, and skin erosion of pocket site and was admitted twice for infection at pocket site. She had no co-morbid. Implantation site was changed to other side of chest after repeated infections. Repeated infections occurred on other side of chest as well. Total four attempts for P.M insertion was done two times on right side and two times on the left side of the chest. Finally, decision of exploration was and PPM was planned to remove due to repeated subcutaneous and sub pectoral infections.

TPM attempted under fluoroscopy through subclavian vein but wires couldn't be crossed as vein was thrombosed and procedure abandoned. At last, open implantation of PPM was planned deep to abdominal muscles

Clinically patient was pale and had decreased appetite and was extremely low mood

due to multiple attempts for PPM implantation. Psychologist called for psychotherapy/ counseling of the patient. Necessary pre operative investigations were carried out. In surgery, lower midline mini Sternotomy was carried out and pericardiotomy was performed. PPM leads stitched to RV epicardium and secured. Pocket for pacemaker was created deep to rectus abdominis sheath and PPM was placed. Sternum closed with 2 wires after placing mediastinal drain.

Patient received in I.C.U. with minimum dobutamine support. She was vitally stable and her blood gases and lab investigation was within normal limits (WNL).

On the 1st post op day she was shifted to HDU. She remained well and stable in HDU. Her inotropic support was tapered off. She was encouraged for oral intake and physical activity. Her family interaction was increased. Her incision site was healthy and her condition was improving and she was shifted to ward on 4th post op day.

She remained there for 3 days and was observed for infection. She was discharged from hospital on 7th POD.

After two weeks she came for follow up in OPD. Her surgery site was healed and PPM was working properly. And she was in better health.

Correspondence: Miss Irie Pervez, Armed Forces Institute of Cardiology/ NIHD Rawalpindi, Pakistan

DISCUSSION

Pacemaker complications associated with the implantation procedure are not uncommon. Pacemaker complications can be divided into acute (immediate) or chronic according to implantation time (or date); lead or pocket complications according to the site of complication; and implantation or system failures. The frequency of complications varies between 10% and 59% for the procedures.

Skin erosion is caused by the underlying pacemaker generator has been reported several times as a complication of pacemaker implants (Kiviniemi et al., 1999)¹. This is the most common late complication of pacemaker implantation and its incidence has been estimated around 0.8% (Harcombe et al., 1998)². Factors predisposing skin erosion are the tissue fragility in old-age patients, the presence of a thin subcutaneous fat layer and abrasive action exerted on the skin from external agents. Other common causes of skin erosion are possible infections of the site and if pacemaker erosion is not caused by infection it can be successfully managed by ipsilateral re-implantation, i.e., revision and this is a financially advantageous solution³. If true erosion occurs,

the system is considered contaminated and current opinion favors removal of the generator and leads to the clean site (Shapiro et al., 2004; Giuseppe et al., 2009)^{3,4}. It is crucial to identify early signs of erosion before the hardware breaks the skin. If the skin is intact, surgical revision of the pocket is often all that is needed to protect the hardware from contamination and infections⁵. Very rarely, all above options fail, as in our case. This can be dealt with the help of minimal invasive surgery. Ministernotomy is very safe and viable option with excellent results.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

REFERENCES

1. Kiviniemi MS, Pirnes MA, Eranen HJ, Kettunen RV, Hartikainen JE. Complications related to permanent pacemaker therapy. *Pacing Clin Electrophysiol* 1999; 22: 711-20.
2. Harcombe AA, Newel SA, Ludman PF, Wistow TE, Sharples LD, Shofield PM, et al. Late complications following permanent pacemaker implantation or elective unit replacement. *Heart* 1998; 80: 240-44.
3. Shapiro M, Hanon S, Schweitzer P. A Rare, Late Complication after Automated Implantable Cardioverter-Defibrillator Placement. *Indian Pacing Electrophysiol J* 2004; 4: 213-16.
4. Guisepe S, Sarubbi B, D'Alto M, Romeo E, Calabro R. Extrusion of the device: a rare complication of the pacemaker implantation. *J Cardiovasc Med* 2009; 10: 330-32.
5. Uslan D, Sohail M, St. Sauver J, Friedman PA, Haye DL, Stoner SM, et al. Permanent pacemaker and implantable cardioverter defibrillator infection. A population-based study. *Arch Intern Med* 2007; 167:669-75.