Author's response to reviews

Title: Pacemaker lead malposition in the left atrial roof is masked by normal pacing thresholds.

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Version: 2
Date: 25 January 2014

Author's response to reviews: see over
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Title: Pacemaker lead malposition in the left atrial roof is masked by normal pacing thresholds.

Authors:

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Version: 1 Date: 25 January 2014

Author's response to reviews: see over
Reviewer: Johannes JB Bonatti

Reviewer's report:

This case report describes malposition of a pacemaker lead in the left atrium after perforation of the superior vena cava. The lead was placed at an outside hospital. Due to hemodynamic deterioration of post intervention the patient was transferred to a tertiary health care center. The false route of the lead led to pericardial tamponade which was controlled through emergency sternotomy.

A postoperative chest x-ray and CT scan revealed wrong initial placement of the pacing lead. The lead was successfully repositioned using a transvenous approach in the OR with the patient and team prepared for immediate conversion to resternotomy. The patient was discharged in good condition after an uneventful further postoperative course.

The case report is written in a clear manner.

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The header for the discussion is “conclusion” and I suggest to correct this.

The header for the discussion has been changed as the reviewer indicates.

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It would be great if the authors could expand a little more on the mechanism of perforation of the SVC/right atrial junction. Are there specific recommendations to avoid this?

The following statements were added to the Discussion:

“Great vessel perforation is a complication of central venous access with an incidence of less than 1%. The vast majority of those perforations occurred when a right subclavian vein approach was chosen and could be linked to kinking of the guidewire during advancement of the vessel dilator.

To our best knowledge, only one case of superior vena caval perforation due to pacemaker placement was described in literature. Fann et al reported problems with placing the lead, which was due to guidewire kinking.”

“We were not able to uncover the exact mechanism of perforation in our patient, but the initial surgeon reported the necessity of several approaches for lead positioning.”

“Meticulous attention should be paid to careful guidewire advancement through the subclavian vein. If unexpected resistance during guidewire placement occurs, the following manoeuvres may prevent major adverse events: Re-puncture, infusion of contrast dye to uncover vessel stenosis or occlusion, switch to the contralateral side and application of a long safe-sheath.”

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I am sure there are other case reports specifically dealing with perforations in this region. They should if available be cited.

Another case report has been cited as the reviewer indicates.


The discussion should also include aspects of surgery stand by at hospitals performing pacemaker implantations. Also the value of involvement of surgeons in pacemaker implant programs. With immediate cardiac surgery standby pericardial tamponade and subsequent cardiogenic shock could potentially have been avoided in the current case.

The following statement was added to the Discussion:

Ideally, surgical backup and cardiopulmonary bypass standby are available at implanting centres to manage any bleeding at an early stage. Perforation and bleeding may not completely be avoidable, but subsequent complications like pericardial tamponade and cardiogenic shock are.

Reviewer: Mukesh Singh
Reviewer's report:
No revisions required.

Reviewer: Nikolaos Bonaros
Reviewer's report:
The complication described is not unusual, but the combination of SVC perforation and good functionality of the pacemaker lead is very uncommon.

Please provide the Sensing/pacing values for the atrial lead before and after revision.

A table with pacing parameters was added as the reviewer indicates.