

# **Pacemaker lead inadvertently placed in the LV**

## **Discussion:**

This patient was transferred from another hospital for ‘pacemaker problems’. Echo shows that he had an AICD pacer lead inadvertently placed in his LV chamber. The pacer crosses the atrial septum presumably via a PFO. Inadvertent LV pacer lead placement is likely under-reported as there are only about 50 cases reported in the literature. A CT scan showed that in addition to the misplaced lead there is a CS lead that was presumably intended for BiV pacing. It might still be effective in its LV-LV pacing since systolic function appears well preserved on the echo.

Over the years we have seen several cases of RV pacer leads misplaced into the LV. It has been suggested to get an ECG prior to the patient leaving the procedure room where the pacer is implanted in order to confirm location of its tip in the proper ventricle. An RBBB type pattern is usually present on ECG rather than a LBBB if the LV instead of RV is paced. Tip location can be confusing using fluoroscopy alone and even a good implanter can be fooled. Echo has also been suggested to confirm proper lead location as well as for assessing the severity of tricuspid regurgitation which might be induced by the lead’s presence across the valve. Leaflet impingement is now recognized as an increasing cause of significant TR. A significant increase in TR over baseline during pacer placement would be an indication for repositioning attempts before closing the pacer pocket.

We have also seen the case of a lead mistakenly placed in the subclavian artery rather than vein which crossed the aortic valve and was chronically positioned in the LV chamber. Due to the patient’s advanced years anticoagulation rather than laser or surgical removal was recommended.

Chronic anticoagulation is usually the method of treatment for a chronic misplaced pacer lead in the LV rather than removal, especially in the elderly. Anticoagulation can successfully prevent thromboembolism which might otherwise occur. If the lead is not chronic, it might be pulled and a new lead properly placed.

Alternatively, laser or even surgical removal with cardiopulmonary bypass are possible but have attendant risks. Each case needs to be approached individually.

## **Reference:**

David McManus, Mary-Lee Mattei, Karen Rose, Jason Rashkin, Lawrence Rosenthal. Inadvertent Lead Placement In The Left Ventricle: A Case Report And Brief Review. *Indian Pacing Electrophysiol J.* 2009 Jul-Aug; 9(4): 224–228