

The Case of Vegetation-Thrombus Which to Make A Not Distinction on DDD Permanent Endocavitary Pacemaker Lead in Patient Which Was Anomaly of Ebstein with Surgery

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Case Report

A 30 year-old female who had undergone a DDD mode Pacemaker (PM) implantation 1 year ago at the another institute due to total atrioventricular block. One month before her present admission, she started to experience chills and shivering as the main complaints. For the last 2 weeks she also had fever and dyspnea (NYHA 2). She had a De Vega annuloplasty for ebstein anomaly during primary atrial septal defect repair 20 years ago at history. Her arterial blood pressure was 110/60 mmHg and pulse of 85 beats/minute with a regular rhythm, her body temperature was 36.5°C. On physical examination 3-4 /6 systolic murmur was heard over the tricuspid valve area. Other system examinations were normal. Electrocardiography showed left bundle branch block pattern a rate of 80 beats/minute. Laboratory examination of her whole blood count revealed leucocyte 7400/mm³, haemoglobin 10 g/dl, haematocrit 30.1%, erythrocyte sedimentation rate of 60 mm/hour, C-reactive protein of 87.7 mg/dl, urea 11 mg/dl, creatinin 0.9 mg/dl, D-dimer 2939 ng/ml, Brucella tube agglutination, brucella agglutination with Rose Bengal, *Salmonella typhi-paratyphi* and salmonella tube agglutination with Grubel –Widal were negative. The first blood culture with the number of 6 were negative. The chest X- ray revealed cardiothoracic rate was increased. On Transthoracic Echocardiography (TTE) thickening of the right atrial PM leads raised a suspicion of lead thrombosis or vegetation, severe right atrial and right ventricular dilatation of 48/64 mm respectively in diameter, a grade of mild tricuspid regurgitation , pulmonary artery systolic pressure was 30 mmHg. On transesophageal echocardiography (TOE) was performed showing this giant mobile mass attached to the intracardiac pacemaker lead in the right atrium (Figure 1). We suspected thrombus in the right atrial mass because of initial blood cultures were negatives and her body temperature was subfebrile. Thus, streptokinase initialed 250.000 intravenous bolus and after administration 100.000 unit/hour 12 hour. During short period of follow-up patient's general condition had worsened and the patient developed high fever



Figure 1: On transesophageal echocardiography was performed showing this giant mobile mass attached to the intracardiac pacemaker lead in the right atrium.

with 38.4°C. We suspected infective endocarditis. Repeated blood culture was taken and recurrent TOE was planned. Transesophageal echocardiographic evaluation should be performed in patient with suspected infective endocarditis with revealed no resolution of the mass (Figure 2). An empirical antibiotherapy with intravenous third generation cephalosporin as cephtriaxone and gentamicin was initiated. Recurrent blood cultures showed positive for methicillin-resistant couglase negative *Staphylococcus aureus*. Antibiotic cover was changed to vancomycin after sensitivities were obtained, with the addition of gentamicin for synergistic bactericidal effect. After 6 weeks of antibiotherapy and weekly repeated echocardiograms showing no shrinkage of mass, no improve of hemodynamics, surgical therapy was planned. In surgery, the former pacemaker generator localized at the right pectoral area and its transvenous electrode were removed in order to complete explantation to be located epicardial lead. Permanent epicardial lead was implanted in patient. A new pacemaker was implanted with epicardial lead (Figure 3). Macroscopic and pathologic-microscopic examination of the mass revealed thrombus (Figure 4). The postoperative course was uneventful which was not fever and was stable of hemodynamics and the patient was discharged on the 5th



Figure 2: Transesophageal echocardiographic evaluation should be performed in patient with suspected infective endocarditis with revealed no resolution of the mass.

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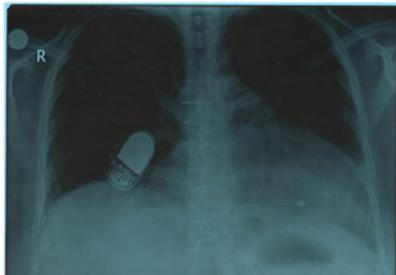


Figure 3: A new pacemaker was implanted with epicardial lead.



Figure 4: Macroscopic and pathologic-microscopic examination of the mass revealed thrombus.

postoperative day. Outpatient follow-up was carried out by clinical of cardiology and no further problems were recorded.

Discussion

Pacemakers (PMs) and Implantable Cardioverter Defibrillators (ICDs) have become life-saving therapeutic tools for patients with cardiac arrhythmia [1]. PM lead infection is a rare condition, most often occurring when intervention is needed after PM implantation [2]. The incidence of infective endocarditis due to pacemaker lead infection ranges between 0.13% and 19.9% [3]. Infective endocarditis is a rare but serious complication of permanent cardiac pacing with high mortality ranging from 10 to 30% [4]. The incidence of serious and potentially fatal complications such as endocarditis and septicemia is around 0.5% [5]. A literature review indicated the microorganism most responsible for late lead infection is *Staphylococcus epidermidis* which can grow on plastic material [2].

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