his leg sometimes accompanied by a jerk. Interestingly, both of our cases had diabetic neuropathy which might have prevented the feeling of numbness, i.e. warning sign, and facilitated inadvertent peri- or intraneuronal injection. Another common feature of both cases was that the femoral palsy started to resolve at nearly 9-12th hours with a complete recovery by the next morning. We do not have information to explain this situation. But it may also be speculated that late reabsorption of prilocain if it was injected within the myelin sheath or immediate healing of a small reversible injury of the neuronal fibers might have been the reasons.

Conclusion

Femoral palsy is a rare complication of cardiac catheterization performed via femoral artery. Although it is due to local compression of a hematoma or pseudoaneurysm or rarely prolonged digital pressure, the present cases showed that it may also occur independent of these mechanisms. Local injury of the femoral nerve by the needle or the anesthetic drug is the most likely explanation. Operators should be aware of this rare complication and pay attention during local anesthesia especially in diabetic patients. Upon the occurrence of this unpleasant complication, it is better to observe the patient nearly 24 hours before planning further evaluation.

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Giant vegetation on permanent endocavitary pacemaker lead and successful open intracardiac removal

Kalp içi yerleşimli kalıcı pacemaker teli üzerinde bulgulanan dev vejetasyon ve başarılı açık cerrahi yaklaşımla çıkarılması

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Introduction

Pacemakers (PMs) and implantable cardioverter defibrillators (ICDs) have become life-saving therapeutic tools for patients with cardiac arrhythmia (1). The incidence of infective endocarditis due to pacemaker lead infection ranges between 0.13% and 19.9% (2). The incidence of serious and potentially fatal complications such as endocarditis and septicemia is around 0.5% (3).

Case report

Our case was a 58-year-old male who had undergone a VVI mode PM implantation 15 years ago at the Cardiology Department of our institute due to total atrioventricular block. Two months before his present admission he started to experience chills and shivering as the main complaints. For the last three weeks he also had fever. He had diabetes mellitus. At the time of his admission, a transthoracic echocardiography (TTE) was performed showing a giant vegetation attached on intracardiac pacemaker lead. Transesophageal echocardiography (TEE) also confirmed these vegetative masses of 27x19 and 17x12 mm in size (Fig. 1). His body temperature was measured as 39^0C. Initially, a leucocytosis of $13.4x10^9$/l was associated with a neutrophilia of $11.1x10^9$/l. Biochemical abnormalities included elevated creatine kinase of 201 IU/l, erythrocyte sedimentation rate of 75mm/h and C-reactive protein of 20.52 mg/l. An empirical antibiotherapy with intravenous cephtriaxone and gentamicin was initiated. Initial blood cultures grew methicillin-sensitive Staphylococcus aureus. Antibiotic cover was changed to teicoplanin after sensitivities were obtained, with the addition of gentamicin for synergistic bactericidal effect. After 5 weeks of antibiotherapy and weekly repeated echocardiograms showing no shrinkage of vegetations, surgical therapy consisting of 3 stages was planned. In the first stage, following median sternotomy a pocket for the generator was prepared at the left pectoral area and a new permanent epicardial pacemaker (St Jude Medical Identity ADxSR SSIR 5180,REF:1084T-54CM) was implanted . In the second stage, with the help of inflow occlusion technique right atriotomy was performed and the pacemaker lead was extracted with the attached giant vegetations (Fig. 2, 3). In the last stage, the former pacemaker generator

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Anadolu Kardiyol Derg
2009; 9: 248-52

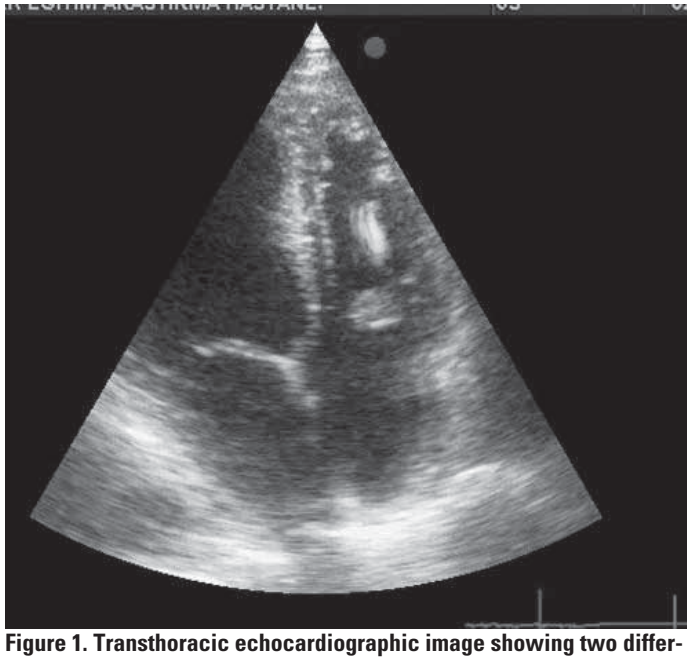

Figure 1. Transthoracic echocardiographic image showing two different vegetations in right atrium

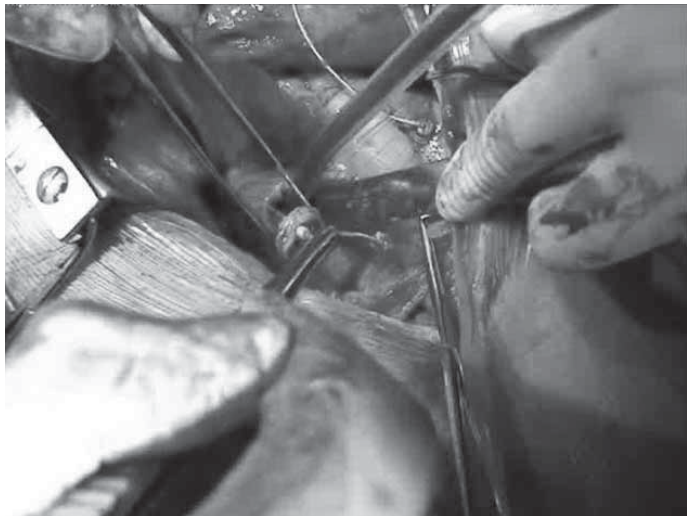

Figure 2. Perioperative view of the infected pacemaker lead end showing two different vegetations

localized at the right pectoral area and its transvenous electrode were removed in order to complete explantation. Therapy with antibiotics was continued for 6 more weeks postoperatively. Outpatient follow-up was carried out by Cardiology department and no further problems were recorded.

Discussion

The overall incidence of confirmed cardiac device infection in a cohort of adult patients with spontaneous *S. aureus* bacteraemia and permanent pacemakers or implantable cardioverter defibrillators over a 6-year period was 45.4%, emphasizing the importance of preventing *S. aureus* bacteraemia in patients with cardiac devices (4).

In general, fever is the most frequent and dominant symptom in pacemaker associated endocarditis. The body temperature is generally subfebrile of long duration. Chills and shivering may accompany this situation. These symptoms are mostly subacute or chronic delaying the proper diagnosis. The period from the onset of fever to the diagnosis of endocarditis may last 3 to 4 months (5). In pacemaker -associated endocarditis, the diagnosis is generally made by modified Duke's criteria. Most valuable laboratory data are positive blood culture and -as in our case- demonstration of vegetation echocardiographically.

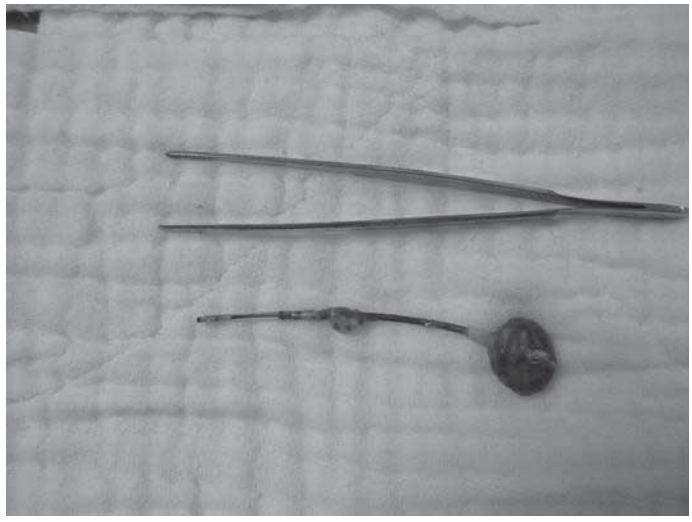

Figure 3. Extracted pacemaker lead with giant vegetations

Echocardiography permits the direct imaging of valvular vegetations, and it allows for the identification of structural complications of endocarditis. It is useful for characterizing the hemodynamic consequences of the infection. It can also provide prognostic information concerning risk of embolization and/or need for cardiac surgery (6). The superiority of transesophageal echocardiogram (TEE) over transthoracic echocardiogram for detecting vegetations is proven (2,5). In 90 to 95% of cases, it is possible via TEE to demonstrate the vegetations attached on lead system.

Arber and his colleagues (7) from Israel investigated 44 cases with PM endocarditis in terms of coexistence of diabetes mellitus between years 1982 and 1992. In this population diabetes mellitus was seen more commonly compared to general prevalence and is therefore defined as a risk factor (7).

Conservative medical therapy often fails in lead endocarditis developed in less than 1% of patients with PM (8). Extraction/ explantation under antibiotherapy is effective in eradication of infection and has a mortality rate of 12.5%. Therefore, complete extraction should be a part of the standard therapy (2).

Conclusion

Pacemaker lead infections have been associated with high degrees of morbidity and high mortality rates (8). The seriousness of this condition requires early diagnosis and treatment (2). Transesophageal echocardiography is the investigation of choice for imaging of vegetations on an endocavitary pacing lead (2). Open intracardiac removal of retained pacing electrodes with or without use of cardiopulmonary bypass is a safe procedure without major complications. It is mandatory for all infected pacing electrodes that cannot be extracted by closed methods (9). Complete explanation is essential for a complete recovery of this infection (2).

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Operation of coarctation with saccular aneurysm of descending aorta under support of low flow cardiopulmonary bypass

İnen aortanın koarktasyon ve sakküler anevrizma birlikteliğinde düşük akımlı kardiyopulmoner baypas desteğiyle operasyonu

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Introduction

Coarctation of aorta has an incidence of 5-8% among all congenital heart diseases and it may be accompanied by many other anomalies. The most frequent concomitant congenital anomaly is bicuspid aorta and the others are aortic aneurysms, double aortic arc, persistent left superior vena cava, pulmonary venous return anomalies and ventricular septal defect (1). Aortic coarctation may cause hypertension, myocardial infarction, heart failure, infective endocarditis, intracranial hemorrhage, aneurysm and dissection-rupture of aorta. Life expectancy of these patients is less than 50 years (2). The most common cause of death for untreated patients is aneurysm and rupture of aorta and its branches. Resection of aneurysmatic segment of aorta is necessary to prevent rupture of aneurysm.

We present our safe surgical intervention under support of low flow cardiopulmonary bypass (CPB) in a case of coarctation which is accompanied by a large saccular aneurysm located at the thoracic aorta.

Case report

A 21-year-old male admitted to our hospital with the complaints of headache and exertional dyspnea. On physical examination, hypertension was detected and his femoral and other distal pulses were nonpalpable. Direct measurement of arterial blood pressure was 205/110 mm Hg and 60/25 mm Hg from left radial and left femoral artery, respectively. On his magnetic resonance angiography a postductal coarctation and an aneurysm with a diameter of 6 cm 2 cm below the coarctation were detected (Fig. 1).

Following anesthesia the patient was intubated by using double-lumen Carlens tube. Right femoral artery and vein were cannulated CPB. After deflation of left lung, 6x4x6 cm sized saccular type true aneurysm attaching to lobes of lung was visualized (Fig. 2). Cardiopulmonary bypass by using centrifugal pump was performed with a low flow (quarter of normal) to supply sufficient perfusion to distal aorta. A 6 cm long no:14 Dacron tube graft interposed to the involved aortic segment (Fig. 3).

The patient's postoperative period was uneventful and patient was discharged on 9th postoperative day with stable hemodynamics, palpable femoral pulses and acceptable blood pressure.

Discussion

Accompanying anomalies play a vital role in surgical planning for aortic coarctation. Progressive hypertension and pressure gradient, secondary to coarctation of aorta, can cause aneurysm at the aortic wall (3). The association between coarctation and aneurysm is a well-known entity and one-stage or two stage surgical interventions can be applied (4).

When an aortic aneurysm is present, resection of the involved aortic segment along with the coarctation is necessary, and continuity can establish with a prosthetic graft. There are some methods to main-

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