

Epicardial Pacemaker Wire and Anticoagulant Therapy Leading to Rectus Abdominis Muscle Hematoma

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EPIKARDİYAL PACEMAKER TELİ VE ANTIKOAGÜLAN TEDAVİNİN YOL AÇTIĞI REKTUS ABDOMİNİS KAS HEMATOMU

ÖZET

Rectus abdominis kası hematomu klinikte nadir rastlanan bir durumdur. Bu duruma yol açan en sık nedenler eksternal ve internal travmalardır. Eldeki yazıda epikardiyal pacemaker telinin yaptığı travmaya bağlı olarak gelişen iki olgu sunulmuştur. Bilgilerimize göre bu iki olgu, açık kalp cerrahisi sırasında yerleştirilen epikardiyal pacemaker telinin yaptığı travmaya bağlı olarak geliştiği bildirilen ilk rektus abdominis kası hematomu olgularıdır.

Anahtar kelimeler: Epikardiyal pace maker, antikoagulan tedavi, hematoma

Rectus abdominis muscle hematoma (RAMH) is an uncommon sequelae of direct or indirect trauma to the abdominal wall. Rupture of an epigastric vessel or tear of a rectus muscle or both are the initiating events. This report describes two cases of RAMH which were due to epicardial pacemaker wire trauma to the epigastric vessels.

REPORT of CASES

Case 1

An 33-year-old woman was admitted into our clinic with the complaints of dyspnea and palpitation. The routine examination revealed that she had rheumatic mitral valve disease and chronic atrial fibrillation. The patient underwent operation for mitral valve replacement and discharged to the ward on the 2nd postoperative day without any complication. On the 5th postoperative day oral anticoagulant treatment was stopped because of an INR value of 4.4. On the 8th postoperative day, the patient complaint of a severe abdominal pain localized in the left hypochondrium. A tender 15x15 cm mass was detected in physical examination on the same region. At this instance the INR value was 2.0. The posteroanterior abdominal radiography showed an opacity, on the left abdominal side (Figure 1).

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Ultrasound examination demonstrated a heterogeneous image that suggested hematoma. Since there was no hemodynamic deterioration, the patient was followed in the clinic. On the 13th postoperative day, the Hb value which had been 13 g/dl at the beginning, decreased to 9.5 g/dl. The computerised tomography at this time showed a hematoma that was extending from the left hypochondrial region to the pelvis in the left rectus abdominis muscle sheath. The pacemaker wire was passing through the top of the hematoma. Since the bleeding continued, a second operation was performed. About 1000 cm³ hematoma was drained and the rectus sheath was cleaned with saline irrigation. No active bleeding was observed within the region. A multiple hole drainage tube was inserted in the rectus sheath. On the 23rd postoperative day, the patient was discharged from the hospital in a good condition.

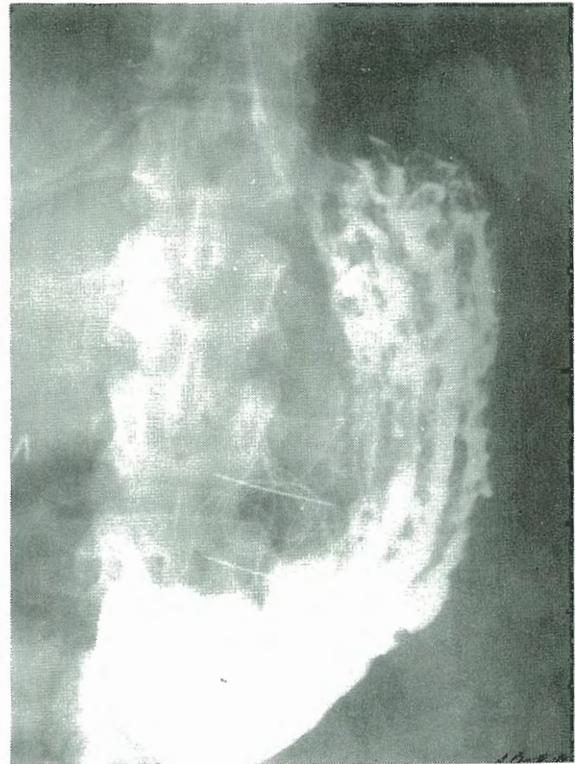


Figure 1. Roentgenogram of the abdomen. Note the abnormal soft tissue shadowing of the RAMH and epicardial pacemaker wire, which was entered into the abdomen on the beginning site of it.

Case 2

An 46-year-old woman was admitted with fatigue and dispnea while she was under the treatment for rheumatic mitral and aortic valve disease. In the echocardiographic examination, vegetations and partial tears on the mitral and aortic valves and an image like an abscess on the aortic valve ring was observed. There was no bacterial growth in the hemocultures. The patient was diagnosed as culture negative infective endocarditis and was treated with antibiotics for 40 days. After this treatment, aortic and mitral valves were replaced with prosthetic valves. On the 10th postoperative day, while the pacemaker wire was pulled out, a pulsatile bleeding was observed originating from the insertion point of the wire. Bleeding was controlled by compression. At this time, INR value was 2.5. On the next day, the patient experienced a severe abdominal pain and a sudden developed tender abdominal mass (10x10cm) localised on the left hypochondrium was observed. RAMH diagnosis was made according to the clinical findings. The patient was operated and a 1200 cm³ hematoma was drained. Active bleeding was observed from the epigastric artery. A surgical clip was used to stop the bleeding. The patient was hemodynamically stable within the following days, and she was discharged from the hospital without any complication on the 30th postoperative day.

DISCUSSION

RAMH is a well defined clinical condition which has been known since Hippocrates (1). However due to its uncommon occurrence it is often misdiagnosed in the clinical practise (2). Among the 20520 autopsies in the Mayo Clinic, 17 RAMH cases were detected of which 14 were incidental (3).

RAMH occur more frequently in women than in men, and the ratio is about 3:1. It may occur at any age during adult life, however mean age of occurrence is about 45 years (4). Our cases were also middle aged female patients.

The etiologies of RAMH are summarised in Table 1 (1-4). In our cases, the problem was the injury caused by the epicardial pacemaker wires that had been placed during the cardiac operations to the epigastric vessel branches. This was a kind of external trauma, which was the first in the medical literature. The first finding that made us think that the epicardial pacemaker wires had been traumatic, was the localisation of the hematoma which was the left upper abdominal quadrant in both cases. RAMH rarely occurs in that region (2,4). Besides, in the first case, both of the radiographical and computerised tomographical examination revealed that the pacemaker wire was passing through the beginning site of the hematoma. Another finding that supports our opinion was the bleeding that was observed during the pulling out of the pacemaker wire in the second case. The period between the trauma and the formation of the hemato-

Table 1. Etiological factors of the RAMH

Trauma	
Internal	External
Physical exertion	Blow on abdomen
Pregnancy, labour and the puerperium	Laparotomy
Twisting	Paracentesis
Vomiting	
Defecation	
Coughing	
Tetanus	
Associated with coagulation	
Anticoagulation	
Blood dyscrasias	
Associated conditions or diseases	
Some infectious diseases: Typhoid fever, Typhus fever...	
Hypertension	
Aneurysm of the epigastric artery	
Some respiratory diseases: Asthma, Acute bronchitis...	
Alcoholism	
Degenerative disorders of the muscles	
Burns	
Prior surgery	
Collagen vascular disease	

ma was one week in the first case and sixteen days in the second. One can think that this period is comparatively long for the formation of hematoma but in the previous literature the formation period of hematoma due to operational injuries of the epigastric vessels were recorded as two weeks, even one month (1).

The relation between the anticoagulant therapy and RAMH was mentioned in the previous literature for many times (1,3). However, even low dose heparin therapy can cause the occurrence of RAMH (5). In our cases high doses of anticoagulant therapy was not the crucial factor in the formation of hematoma but it still was a major contributing factor.

As a result, it should be noted that epicardial pacemaker wires can cause this kind of trauma and intraoperative pacemaker wires should be placed carefully. In RAMH early and exact diagnosis is important. In the cardiac postoperative patients with anticoagulant therapy, tender masses that occur suddenly in the abdomen should be evaluated carefully.

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