Recurrent Thrombosis of the Iliac Artery Due to Acute Leukemia: A Case Report

AKUT LÖSEMİNİN NEDEN OLDUĞU TEKRARLAYAN İLİYAK ARTER TROMBOZU

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Abstract

The cause of acute arterial occlusion is generally cardiac embolism. Rarely any cardiovascular pathology can be detected.

A 39-year-old male patient with symptoms of acute arterial occlusion in the left lower extremity was presented. Left femoral embolectomy was performed on an emergency basis and arterial flow of the extremity was reconstituted. The patient underwent 7 consecutive thrombectomies within two weeks because of recurrent arterial thrombosis in the same extremity. The patient had no pathology that might be the cause of acute arterial occlusion. The patient was diagnosed as acute leukemia and he died of disseminated intravascular coagulopathy after 3 weeks following his admission.

Acute arterial occlusion was the initial symptom in this patient. Recurrent arterial thrombosis requiring multiple embolectomies in a young patient without any signs of intracardiac and vascular causes should raise the suspicion of hematological malignancy.

Key Words: Thrombosis, leukemia

Özet

Akut arteriyel oklüzyonun, görülen en sık nedenini kardiyak kökenli emboliler oluşturmaktadır ve emboli kaynağı araştırıldığında sıklıkla kardiyovaskülar sistemle ilgili bir etiyoloji saptanır. Nadir olarak altta yatan neden kardiyovasküler bir patoloji ile ilgili değildir.

Sol alt ekstremitede akut arter tıkanıklığı bulgularıyla başvuran 39 yaşındaki erkek olgu sunulmaktadır. Acil olarak sol femoral embolektomi operasyonuna alınmış ve ekstremiteye akım sağlanmıştır. Hastanın aynı ekstremitesinde tekrarlayan arter trombozu nedeniyle, 2 hafta içinde toplam 7 kez trombektomi uygulanmıştır. Akut oklüzyona sebep olabilecek bir kardiyovasküler etiyoloji saptanmayan olguya tekrarlayan vasküler girişimlerde bulunulmuştur. Hastada tekrarlayan tromboza neden olabilecek hematolojik tablo araştırılmış ve akut lökoz saptanmıştır. Hasta 3 hafta sonra dissemine intravasküler koagülopati (DIC) ve solunum yetmezliği tablosuyla kaybedilmiştir.

Bu olguda akut arteriyel oklüzyon ilk klinik bulgu olarak ortaya çıkmıştır. Bunun gibi kardiyovasküler değerlendirmede herhangi bir patoloji saptanmayan olgularda malignite olabileceğinin düşünülmesi, etiyolojiye yönelik erken tanı ve tedavinin, uygulanmasını sağlayabileceği akılda bulundurulmalıdır.

Anahtar Kelimeler: Trombozis, lösemi

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Acute arterial occlusion is generally caused by thrombus formed locally or migrated from elsewhere mostly from the heart.[1] An unusual case of recurrent iliac artery occlusion that could not be explained by any vascular or cardiac pathology is presented.

Case Report

Thirty-nine year old male, working actively as a police officer had started to feel pain in his left leg one month prior to his admission to Adnan Menderes University Hospital at Aydın. He had received medical treatment for chronic leg ischemia elsewhere for 2 weeks. On admission, femoral, popliteal and distal pedal pulses of the left leg were not palpable. His left foot was severely ischemic. Pulses of the other extremities were all fully palpable and his physical examination was otherwise normal. Bilateral femoral angiography revealed total occlusion of the left iliac artery. Left femoral embolectomy was performed and a large amount of thrombotic material was removed from the left iliac, commom femoral artery and its branches. Femoral artery wall was not atherosclerotic and there was no dissection.

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No further procedure was needed to restore the blood flow of the extremity. Pedal pulses were palpable and ischemic symptoms disappeared. For etiologic explanation, thorax and abdomen were examined by contrast computerized tomography and all aortic segments were normal. Likewise, abdominal ultrasonography and echocardiography did not reveal any pathology.

On the postoperative 3rd day, the patient started to have ischemic pain and pulses of the left leg were not palpable. The patient was taken to the operating room for the second time and left femoral arterial thrombectomy was performed. The thrombectomy material was white in color and vessel-like in shape (Figure 1). The appearance of the thrombectomy material was quite unusual compared to the commonly seen thrombus formation responsible for acute arterial occlusions. Left femoral angiography was performed to see the left ileofemoral tree. A 20% stenosis in a 2 cm. segment at the beginning of left iliac artery was noted. Femoral arteries were normal down to the tibioperoneal truncus. Posterior tibial artery was occluded in the distal segment and anterior tibial artery wall was irregular (Figure 2). Restoration of the blood flow was satisfactory. Antithrombotic therapy was started with continuous Heparin infusion. Pathologic examination of the embolectomy material revealed a composition of fibrin accumulation. White blood cell count and microscopic examination of the differential were normal.

Figure 1. Thrombectomy material (The length of the forceps is 19.7 cm).

The patient underwent four additional thrombectomy procedures and one tubular graft replacement of the left femoral artery because of recurrent occlusions of the left iliofemoral arterial tree with the same material within 10 days of the second operation. On the 15th day of his admission, the patient was transferred to another center and then diagnosed as promyelocytic leukemia. He further underwent vascular procedures to restore the blood flow to the lower extremities. However, he did not respond to anti-leukemic therapy in that center and died of disseminated intravascular coagulopathy and multiple organ failure within one week.

Discussion

Arterial thrombosis is a rare complication of malignancy and its presence as the presenting symptom of malignancy is extremely unusual. Malignancy is reported to be associated with hypercoagulopathy and it is known as Trousseau's syndrome so-called paraneoplastic syndrome.[2] Few cases with Trousseau's syndrome complicated with recurrent thrombosis are reported to undergo multiple embolectomies in spite of effective anticoagulation treatment.

In the present case, the thrombosis occluding the left iliac artery was concluded to be due to hypercoagulability associated to promyelocytic leukemia. Primary cardiovascular causes of thrombosis including left atrial mixoma, tumor invading the left heart, aortic dissection and tumor invasion of iliac artery were all investigated but none was present. Various reports suggest that multiple thrombus complexes composed by fibrin and leukemia cells are responsible in thrombotic events occurring during malignancy, particularly in acute promyelocytic leukemia.[3,4] Although venous thrombosis is more common, there are occasional cases of arterial thrombosis occurring as the presenting symptom of acute promyelocytic leukemia.[3,4] Regardless of venous or arterial thrombosis, these patients usually die of disseminated intravascular coagulopathy.[5] Recurrent arterial thrombosis requiring multiple embolectomies in a young patient without any clues of intracardiac and vascular causes should raise the suspicion of hematological

Figure 2. Femoral angiography following the 2nd thrombectomy.

malignancy. Embolectomy material may be quite unusual in appearance as it was in the present case (Figure 1). Baseline hematological profile of these patients may be totally normal.[6] Malignancies, which are complicated with thrombosis, usually progress rapidly and are life threatening.[2-7,8] Thus, early diagnosis is necessary for effective treatment.

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