

Massive bilateral hemothorax related to ruptured iliac artery aneurysm: an unusual presentation

Rüptüre iliyak arter anevrizmasına bağlı masif iki taraflı hemotoraks: Sıradışı bir tablo

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An abdominal aortic or iliac artery rupture typically presents with central abdominal and back pain, collapse and shock. In this article, we present a very rare case of massive bilateral hemothorax associated with ruptured iliac artery aneurysm. While ruptured iliac artery aneurysm was treated with an emergent endovascular intervention, bilateral tube thoracostomy was performed for hemothorax. The patient was discharged from hospital at the 10th postoperative day in a good condition. At six-months of follow-up, tomographic scan was normal with a reduction in the aneurysm size.

Key words: Endovascular treatment; isolated iliac artery aneurysm.

An isolated iliac artery aneurysm (IAA) is usually multiple and bilateral. It comprises 1 to 2% of all aortoiliac aneurysms and has an overall incidence of only 0.03%.^[1-2] The natural history is probably one of continued expansion and rupture with a high mortality rate. An intra-abdominal aortic or iliac artery rupture typically presents with central abdominal pain, back pain, collapse, and shock. Herein, we report a very rare presentation of a ruptured IAA associated with a massive bilateral hemothorax.

CASE REPORT

A 68-year-old female presented with sudden onset abdominal pain and loss of consciousness. Her medical history was unremarkable except for the presence of uncontrolled hypertension that persisted despite medical treatment. On arrival to the emergency

Abdominal aort veya iliyak arter rüptürleri tipik olarak santral karın ve sırt ağrısı, çökme ve şok ile seyreder. Bu yazıda rüptüre iliyak arter anevrizma ile ilişkili nadir bir masif iki taraflı hemotoraks olgusu sunuldu. Rüptüre iliyak arter anevrizması acil endovasküler girişim ile tedavi edilirken, hemotoraksa yönelik iki taraflı tüp torakostomi uygulandı. Hasta işlem sonrası 10. gün iyi bir durumda hastaneden taburcu edildi. Altıncı ayda yapılan kontrol tomografisi normal olup, anevrizma boyutunda küçülme gözlemlendi.

Anahtar sözcükler: Endovasküler tamir; izole iliak arter anevrizması.

room, she was in shock and had a huge pulsatile mass in the upper abdomen. Her blood pressure was 65/35 mmHg and her heart rate was 121 beats per minute. Thoracoabdominal contrast enhanced tomography revealed a rupture of the left internal IAA (38x44 mm) with a massive retroperitoneal hematoma (Figure 1). The hemoglobin (Hb) and hematocrit (Htc) levels were 5 g/dl and 15.8%, respectively. An emergency endovascular stenting for the ruptured iliac artery was planned. During the procedure, a guide wire was passed across the iliac bifurcation, and an Endurant™ iliac extender module measuring 16x10x95 mm, (Medtronic Vascular Inc., Santa Rosa, California, USA) was deployed to cover the orifice of the internal iliac artery and exclude the aneurysm from the circulation. The control digital subtraction angiography confirmed the absence of an endoleak at either the internal iliac artery or aneurysmal sac, and



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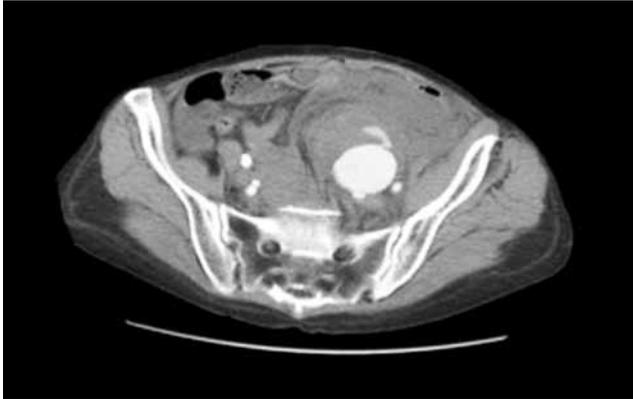


Figure 1. Contrast-enhanced abdominal computed tomography scan showing the left-sided ruptured internal iliac artery aneurysm and massive retroperitoneal hemothoma.

the patient was transferred to the intensive care unit (Figure 2). Meanwhile, eight units of red blood cells were given, and the patient remained hemodynamically stable without any drop in the Hb level. Routine X-ray imaging showed bilateral pleural effusion 24 hours following the endovascular intervention as a new onset sign, and a thoracic computed tomography (CT) scan revealed massive bilateral pleural effusion (Figure 3). A bilateral tube thoracostomy was performed, and a total of 3300 cc of blood was drained. The patient had an uneventful post-procedural period and was discharged from the hospital on the 10th postoperative day. At the six-month follow-up, a CT scan was normal and showed a reduction in the size of the aneurysm.

DISCUSSION

A retroperitoneal rupture of an IAA may be contained, but intraperitoneal rupture can lead to rapid death. An aneurysm rupture may be the first presentation with hypotension occurring along with abdominal, groin, and thigh pain. To our knowledge, a hemothorax related to IAA rupture has not been previously



Figure 2. Digital subtraction angiography showing the treated ruptured internal iliac artery via endovascular stenting.

reported. In our case, the hemothorax was not observed before the procedure on either the thoracic CT or X-ray imaging. It was realized at 24 hours postoperatively, and it seems likely that the massive retroperitoneal hemorrhage tracked cranially into both pleural cavities.

The key objective in the treatment of an IAA rupture is hemostasis and exclusion of the aneurysm

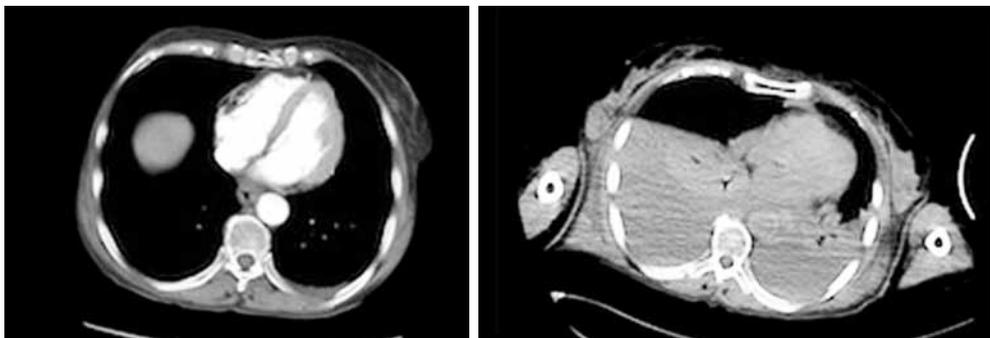


Figure 3. Preoperative and postoperative first-day thoracic computed tomography imaging.

sac from the circulation. Despite improvements in anesthetic care and advances in surgical techniques, the mortality rate for open surgical repair of an IAA rupture is still high (40-60%).^[3,4] This is often due to a delay in the diagnosis and the difficulties connected with intraoperative management as well as the subsequent major hemorrhage. Endovascular treatment of IAAs in emergency situations has emerged as an alternative to open surgical repair and is particularly advantageous for elderly patients with multiple comorbidities.^[5] The overall incidence of perioperative and delayed complications varies from 12 to 20% following endovascular intervention, and the most common complications are buttock claudication, graft occlusion/kinking, endoleakage, colonic ischemia, access site complications, and distal atheroembolization.^[6,7] We observed none of these complications in our patient during the six months of follow-up.

In conclusion, our case shows that the rupture of an IAA or abdominal aortic aneurysm may be associated with a massive hemothorax that can be bilateral in nature.

Declaration of conflicting interests

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