

Iliac Artery Dissection: A Case Report

Muhammed Ekmekyapar¹, Hakan Oğuztürk², Tuba Ekmekyapar³, Şükrü Gürbüz², Serdar Derya¹

¹Emergency Medicine Department, Malatya Education and Research Hospital, Malatya, Turkey

²Emergency Medicine Department, Faculty of Medicine, Inonu University, Malatya, Turkey

³Neurology Department, Malatya Education and Research Hospital, Malatya, Turkey

Abstract

Introduction: Iliac artery aneurisms are generally observed associated with abdominal aortic aneurisms. Iliac artery dissection happens to be one of the rarely encountered cases and very few cases have been reported in literature. We aimed to present a patient with both iliac artery aneurisms associated with left iliac artery dissection in this study.

Case: A male, 34-years old patient applied to emergency service with complaints of abdominal pain and paresthesia in his left leg. There was no pain or loss of strength in the left leg of the patient, but there existed a numbness described by himself. The brain computed tomography (CT) of the patient was considered as normal but his abdominal ultrasonography was reported as "an aneurismal dilatation in both iliac artery at bifurcation level on a nearly 3 cm-segment, reaching up to 3 cm at the widest section and a mural thrombus reaching up to 70 % stenosis within the vein lumen were observed". Thereon, the patient went through a CT-angiogram and as a result dissection was observed in the left iliac artery together with aneurismal dilatation and mural thrombus in both iliac arteries. The patient was hospitalized in the intensive care unit of cardiovascular surgery clinic.

Conclusion: In regards to the patients who apply to emergency services with complaints of abdominal pain, numbness in extremities, acute abdomen or neurologic symptoms atypically seen like loss of strength; we should also keep in mind aortic dissection and/or iliac artery dissection among our preliminary diagnoses.

Keywords: Abdominal pain, numbness in extremities, iliac artery dissection

Introduction

Iliac artery aneurisms are generally observed associated with abdominal aortic aneurisms. While isolated iliac artery aneurisms are lesser seen, they constitute 0.4 % and 2 % of all aneurismal diseases¹. Iliac artery dissection happens to be one of the rarely encountered cases and very few cases have been reported in literature²⁻⁴. We aimed to present a patient with both iliac artery aneurisms associated with left iliac artery dissection in this study.

Case

A male, 34-years old patient applied to emergency service with complaints of abdominal pain and paresthesia in his left leg. The vital parameters of the patient were body temperature 36.6°C, pulse 76/min, blood pressure 135/76 mmHg and respiratory rate was 17/min. Although the abdomen was painful and sensitized in the physical examination of the patient, there was no defense-rebound. There was no pain

or loss of strength in the left leg of the patient, but there existed a numbness described by himself. There was no difference in the right-left blood pressure and his peripheral pulses were palpable on upper extremities, but regarding the lower extremities, extremity pulses were weakly taken, the left lower extremity being pulsed more weakly. Other system examinations of the patient were normal. With respect to blood tests of the patient, his hemogram was at normal level and in his biochemical values, creatinine 1.28 (normal range 0.72-1.25 mg/dl) and other parameters were also normal. Electrocardiography (ECG) of the patient was normal, and sinus rhythm and troponin value was also normal. Following the physical examination, the patient was demanded a cranial tomography for intracranial pathologies and an ultrasonography for abdominal pain. The cranial computed tomography (CT) of the patient was considered as normal but his abdominal ultrasonography was reported as "an aneurismal dilatation in both iliac artery at bifurcation level on a nearly 3 cm-segment, reaching up to 3 cm at the widest section and a mural thrombus reaching up to 70 % stenosis within the vein lumen were observed". Thereon, the patient went through a CT-angiogram and as a result dissection was

observed in the left iliac artery together with aneurismal dilatation and mural thrombus in both iliac arteries (Figure 1). The patient was asked for a neurological consultation for intracranial pathologies and a cardiovascular surgery consultation for his iliac artery aneurism + dissection. The neurology department stated that his present stated was not related to any intracranial case and the patient was hospitalized in the intensive care unit of cardiovascular surgery clinic.



Figure-1: Image of BT-angiogram compatible with aneurismal dilatation in both iliac arteries, mural thrombus and dissection in the left iliac artery.

Discussions

Iliac artery aneurisms are often coincidentally diagnosed during the imaging studies conducted for other reasons. Most of the findings occur depending on the erosion and rupture within the tissues. In nearly more than half of the patients, the symptoms are existent. The patients rather have lower abdominal and flank pain. The findings generally take place depending on the compression on the surrounding anatomic structures. The most frequent findings are glomerulonephritis, pain during defecation due to rectal compression, paresthesia in lower extremities due to pelvic

nerve compression and ischemia in the lower extremities. As these symptoms are not directly related to the arterial system, the diagnosis might be delayed. Besides, findings like thrombosis, emboli and fistulae might be seen less often associated with iliac aneurisms. In case the aneurisms are ruptured; abdominal pain, hypotension and bradycardia could be observed⁵. In our case, the patient had abdominal pain along with a complaint of paresthesia in the left leg. Atherosclerosis is known as the most common reason in the etiology of this type of aneurisms. Rarely encountered reasons in etiology can be counted as paraanostomatic pseudoaneurysm, penetrating pelvic trauma, iatrogenic lesions, bacterial infections, Kawasaki syndrome, Behçet's disease, fibromuscular dysplasia, Takayasu arteritis, connective tissue diseases (cystic medial necrosis, Marfan syndrome and etc.)^{6,7}. Many of the conducted researches showed that symptom or rupture risk of isolated iliac artery aneurisms are closely related to the diameter of the aneurism. The risk of rupture increases considerably, particularly if the diameter of iliac artery aneurism is over 3 cm⁸. On the other hand, iliac artery dissections are very rarely encountered cases. Again atherosclerosis is put forward as the most frequent reason in cases reported in literature. Almost in all of the cases related to atherosclerosis, the age of the patients are over 50. In our case, the patient was young and 34 years old. Unless there is a story of dissection or trauma developed on aneurism basis, it becomes hard to make diagnose in iliac artery dissection cases. It is not usually possible to make correct diagnosis during first application even in cases who have a trauma story⁹. The initial application of the patients might be induced from aneurism rupture and this situation is generally encountered in cases who have developed iliac artery dissection developed on aneurism basis. The type of treatment in these cases changes depending upon the symptoms of the patients during their application which covers a wide spectrum ranging from medical therapy to urgent surgical interventions.

Conclusion

In regards to the patients who apply to emergency services with complaints of abdominal pain, numbness in extremities, acute abdomen or neurologic symptoms atypically seen like loss of strength; we should also keep in mind aortic dissection and/or iliac artery dissection among our preliminary diagnoses.

References

1. Lowry SF, Kraft RO. Isolated aneurysms of the iliac artery. *Arch Surg* 1978;113:1289-93.
2. Barker, SG, and KG.Burnand . Retrograde iliac artery dissection in Marfan's syndrome. A case report. *J Cardiovasc Surg (Torino)* 1989;30: 953-4,.
3. Cattan S, Marriette X and Labrousse F et al. Iliac artery dissection in alpha 1-antitrypsin deficiency. *Lancet* 1994;343: 1371-2.
4. Fernandez AL and Herreros JM. Spontaneous and isolated dissection of the common iliac artery. *J Cardiovasc Surg (Torino)* 1997;38: 377-9,.
5. Nachbur BH, Inderbitzi RG, Bär W. Isolated iliac aneurysms. *Eur J Vasc Surg* 1991;5:375-81.
6. Kalko Y, Basaran M, Aydin U, Kafa U, Basaranoglu G, Yasar T. The surgical treatment of arterial aneurysms in Behçet disease: a report of 16 patients. *J Vasc Surg* 2005;42:673-7.
7. Atsuta Y, Inaba M, Goh K, Azuma N, Akasaka N, Asada H, et al. Isolated iliac artery aneurysm caused by fibromuscular dysplasia: report of a case. *Surg Today* 2003;33:639-41.
8. Özbudak E, Kanko M, Yavuz Ş, Gümüştas S, Arıkan A.A, Çiftçi E, Berki T. İzole iliyak arter anevrizmaları: Cerrahi yöntem ile endovasküler girişimlerin karşılaştırılması. *Türk Göğüs Kalp Damar Cerrahisi Dergisi* 2013;21:317-324.
9. Lyden SP, Srivastava SD and Waldman DL et al. Common iliac artery dissection after blunt trauma:case report of endovascular repair and literature review. *J Trauma* 2001;50: 339-42.

