Traumatic occlusion of the right external iliac and common femoral arteries
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Citation

Abstract
External iliac and/or common femoral arteries injury from blunt trauma is uncommon. The role of trauma as a causative factor in this condition has been previously documented rarely. In this study we present a case that had traumatic occlusion of the right external iliac and common femoral arteries.

INTRODUCTION
Blunt vascular trauma is rare as compared with penetrating vascular trauma. The incidence of iliac artery injury has been reported as low as 0.4 per cent of total arterial trauma. Iliac artery injury in blunt trauma is rare because of its anatomic location and protection by the pelvis (1). When this injury results in complete vessel occlusion, the presentation is dramatic. Timely intervention is essential (2).

CASE PRESENTATION
Our case was a 50-year-old male. He admitted to our clinic with a chief complaint of claudication in his right leg with a walking distance limited to 100 m for about 5 months. His past medical history was significant for a blunt injury at a car accident 6 months ago. At that time, he had experienced deep abrasions on his lower extremities and he had been hospitalized for a week. Following his discharge, he had developed deep venous thrombosis of the left lower extremity and had been rehospitalized due to pulmonary embolism. He admitted to our outpatient clinic with a chief complaint of claudication in his right leg, several weeks after the accident. His physical examination revealed absence of the right femoral and distal pulses. Ipsilateral ankle-brachial index was 0.5. Aortobifemoral DSA investigation showed narrower calibration in the proximal right external iliac artery and occlusion of the distal external iliac artery and common femoral artery. Filling of the right superficial femoral artery was provided by collateral circulation. Remaining arteries were patent and in optimal calibration. Posttraumatic occlusion was thought to be the etiology.
Among further investigations, color Doppler ultrasound of the venous system of the bilateral lower extremities was normal. Transthoracic echocardiography showed minimal tricuspid regurgitation in the otherwise healthy heart. Ejection fraction was measured as 60%. Pulmonary perfusion scintigraphy with Tc-99m MAA showed normal perfusion, unlike the previous findings at the time of embolism where some pulmonary segments showed perfusion defects (Figure 5).

With these results, he was taken to the operating room. Under general anesthesia, extraperitoneal approach was
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preferred. Femoral incision contained the excessive scar tissue, possibly formed after the previous trauma. This tissue was extirpated. Then, an 8-mm ringed polytetrafluoroethylene (Goretex) graft was interposed between right common iliac artery and bifurcation of the right common femoral artery. Our patient was discharged on 5th postoperative day with similar amplitudes in the pulses palpated in both lower extremities (Figure 6).

Figure 6
Figure 6. View of the multiple abraded scar tissues occurred after former trauma.

DISCUSSION

Chronic post traumatic ischaemia is a specific late complication of vascular injuries (3). Traumatic isolated iliac artery occlusion is unusual. Only rare cases of common iliac arterial injuries resulting from blunt abdominal trauma have been reported, and most of them were attributed to the seat-belt syndrome and associated with visceral organ perforation or pelvic fracture (4).

Complete vessel occlusion arises from intimal injury. The most frequent mechanism is compression from a seat belt or steering wheel during a motor vehicle crash. Patients present with absent femoral and distal pulses in association with lower extremity neuropathy. Intervention commonly involves bypass grafting (2).

The diagnosis of such injuries must based on clinical suspicion, the presence of bruits, pulse change or discrepancy. Vessel wall damage may not manifest itself initially but may result in thrombosis, subintimal hemorrhage, dissection, or aneurysmal dilatation. These can result in hemorrhage, pain, or ischemia developing remotely from the initial trauma (5).

References

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