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### Case Report

# Fracture of the acetabulum with femoral artery injury presenting late: A case report

Sivaprasad Kalyanasundaram<sup>1</sup>, Venugopal K. Menon<sup>\*</sup>,  
Jacob Varughese<sup>2</sup>, Yasser Abbas Anis Hassan<sup>3</sup>

*Khoula Hospital, Muscat, Oman*

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#### ABSTRACT

This study reports a rare case of both column acetabulum fracture with femoral artery injury that presented late and was managed with arterial reconstruction and fracture fixation.

A thirty-one year old man sustained both column acetabular fracture on the left in a motor vehicle accident. On admission there was no obvious neuro-vascular deficit. During surgery for the fracture after 7 days of the injury the femoral artery was found to be severely crushed with no blood flow. The anterior column of the acetabulum was stabilised followed by resection and reconstruction of the femoral artery. The post-operative period was uneventful and he was discharged normally. At 6 months from injury the fractures had united well with excellent limb circulation and good lower limb function.

Femoral artery injury with acetabular fracture is rare and late presentations are unreported hitherto. The results of fracture stabilisation and vessel reconstruction seem to be excellent. Literature of similar injuries is reviewed.

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<sup>\*</sup> Corresponding author at: Department of Orthopaedics, Khoula Hospital, Mina al Fahal, PO Box 90, Post Code 116, Muscat, Oman. Tel.: +968 99182056; fax: +968 24560753.

*E-mail addresses:* [prassiva2000@yahoo.com](mailto:prassiva2000@yahoo.com) (S. Kalyanasundaram), [kvm422@hotmail.com](mailto:kvm422@hotmail.com) (V.K. Menon), [varjac@gmail.com](mailto:varjac@gmail.com) (J. Varughese), [yasserab@gmail.com](mailto:yasserab@gmail.com) (Y.A.A. Hassan).

<sup>1</sup> Tel.: +968 99323640.

<sup>2</sup> Tel.: +968 93891090.

<sup>3</sup> Tel.: +968 95483964.

## Introduction

Displaced acetabular fractures are among the most complex of all orthopaedic injuries [1]. Major arterial injury is fortunately a rare association of these fractures and the mortality of such lesions is extremely high. On the other hand venous injuries and bone bleeds causing rapid exsanguination are a relatively common accompaniment to such high velocity pelvi-acetabular trauma [2]. An extensive review of literature revealed only two patients of femoral artery injury associated with acetabular fractures involving the high anterior column who survived the trauma though there are several reports of external iliac artery trauma [3]. There are no reports of late presentation of vascular lesions in pelvic trauma to the best of our knowledge. The authors report a case of both column fractures of the acetabulum with femoral artery injury that presented late and was successfully managed with vascular reconstruction and fracture fixation.

## Materials and methods

Mr. HMSAJ, a 31 years old man presented to a tertiary care centre in the Middle East with both column fractures of the left acetabulum following a road traffic accident. He had no other major systemic trauma. He was initially admitted to a peripheral hospital and after hemodynamic stabilisation transferred to our centre 3 days after the injury. The fracture itself was managed with skin traction at the peripheral institution. Clinical examination revealed moderate swelling and ecchymosis of left inguinal region with scrotal hematoma. On admission to our centre he did complain of numbness in the left lower limb but without objective neurological deficits and intact dorsalis pedis and posterior tibial pulsations in the leg, though feeble.

His X-rays and CT scans with 3-D reconstruction revealed the full extent of his bony injury. It was a high anterior column fracture along with the posterior column injury Fig. 1. He was taken up for surgery for his acetabular fracture on the 7th day following the injury with a plan of anterior fixation followed by posterior fixation if necessary. Under general anesthesia, while marking the surgical incision for the Letournel's ilio-inguinal approach, it was observed that the femoral artery was palpable on the affected side only above the inguinal ligament but feeble due to soft tissue edema.

Once the skin and subcutaneous tissue were incised, it was observed that the underlying soft tissues including the external oblique aponeurosis and the inguinal ligament were totally shredded with profuse amounts of clotted blood in the tissue planes Fig. 2. The femoral artery and vein were fully exposed. The femoral vein appeared contused with dark bluish discoloration and femoral artery was attenuated to a fine filament just anterior to the fractured anterior column Fig. 3. Pulses were absent immediately distal to the injured segment that was approximately an inch long with visible thrombus.

The vascular surgeons were informed immediately and in collaboration with them the surgical strategy was reviewed. A temporary Fogarty Catheter was passed into the femoral artery to restore the blood supply.

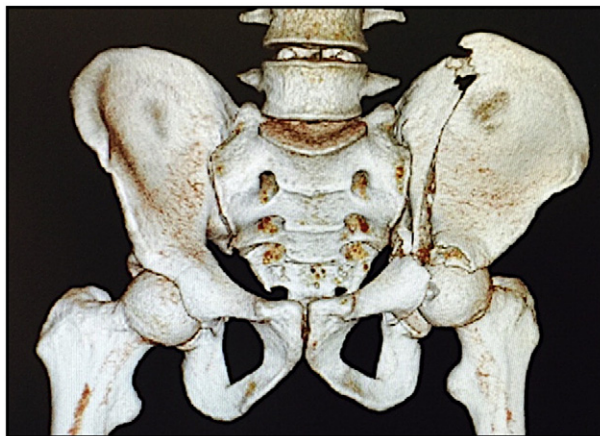


Fig. 1. Three-D reconstructed CT image of the injury depicting the bi-column fracture.

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