

## Case Report

# Haemoperitoneum: a rare consequence of medial migration of K wire

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### ABSTRACT

Upper femoral corrective osteotomy with K wire stabilization has been recognized as a common method in the treatment of tuberculosis of hip in the field of orthopedics surgery. But here we report an unusual surgical complication due to penetration by an implant through a bone with osteomyelitis due to tuberculosis, the case of a 20-year-old male who presented with Hemoperitoneum, a general surgical complication which occurred due to the rupture of a retro-peritoneal hematoma formed by the intra-pelvic medial migration of the K wire.

**Keywords:** Hemoperitoneum, K wire, Migration

### INTRODUCTION

The treatment of Tuberculosis of hip (in the healed stage of the disease) with upper femoral corrective osteotomy with K Wire stabilization has been recognized as a common method and comparatively good outcomes were reported. Despite of this, some complications were reported, where the protrusion of the K wire into the hip joint is common.<sup>1</sup> due to the rupture of the hematoma resulting in hypovolemic shock. this a rare surgical presentation after an orthopedic procedure attributed to poor bone quality due to tuberculosis as well as excessive weight bearing over the limb due to trauma.

### CASE REPORT

A 20-years-old male presented to the casualty in hypovolemic shock with complaint of pain in abdomen for the past 4 days, gradually increasing in intensity with complaint of one episode of vomiting. The patient had a history of fall 10 days back. He had given a history of tuberculosis of hip 5-6 years back for which the patient had taken Anti Koch's treatment (AKT) for up to 2 years. Upper femoral corrective osteotomy with K Wire

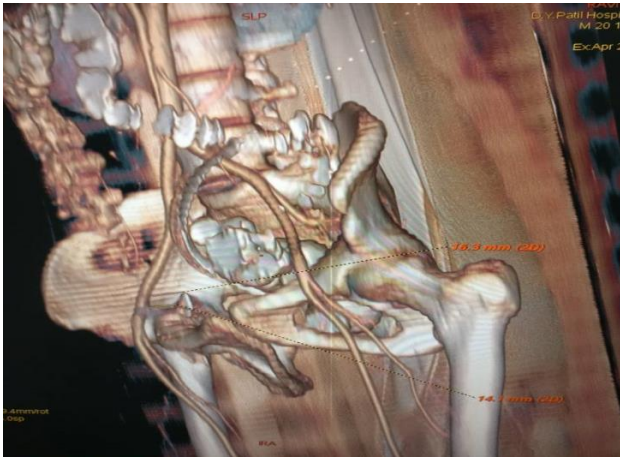
stabilization was noted from radiological imaging which was apparently done 3 years back in the healing phase of the disease.

On examination, patient was tachycardia and hypotensive with oliguria. Abdominal examination revealed severe tenderness and guarding of the lower abdomen. Haemoglobin at the time of presentation was 5.4 g/dl. The patient was stabilized and an immediate decision was taken to do an emergency exploratory laparotomy.

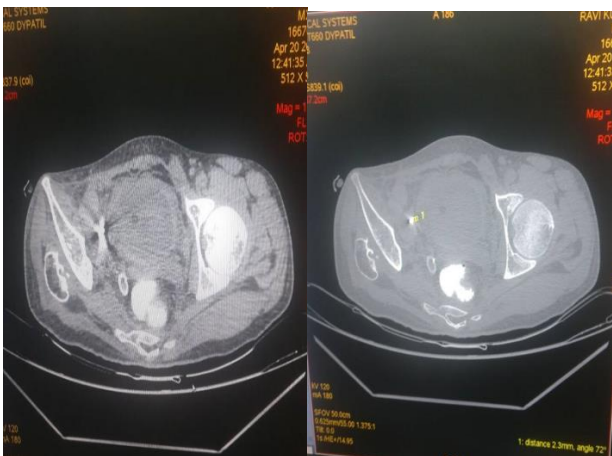
On midline exploration, large amount of blood 1.5 liters with around 500 ml clots were evacuated. Large retroperitoneal hematoma was found extending from the right iliac fossa along the lateral wall of the ascending colon, till the hepatic flexure of the large colon and up till the mesentery. The bladder was not separately palpable. A big rent of around 5\*2 cms was noted of one of the hematomas near the right iliac fossa which was the source of bleeding. Hemostasis was achieved and abdomen was closed.

Further, radiological imaging done post operatively revealed the cause of the retroperitoneal hematoma was

the proximity of the tip of the K wire in situ to the external iliac and the bladder. The patient was immobilized with Foley's catheter in situ (due to the distance of the nail from the bladder). An orthopedic opinion was taken and K wire removal was done by the orthopedic surgeon. Post-operative period was uneventful.



**Figure 1: 3D visualization of the joint showing that the tip of the K wire at 16.3 mm from the vessel.**



**Figure 2: Computed tomography plate of abdomen and pelvis of the patient showing the distance between the tip of the K wire and the bladder (2mm).**

**DISCUSSION**

Tuberculosis of the hip joint is very common in India. The disease soon becomes ‘osteoarticular’ with the destruction of articular surfaces of the acetabulum and the femoral head. Indication for surgical treatment is when the response of the disease to conservative treatment isn’t

acceptable. Upper femoral osteotomy is done when the patient is presenting with sound ankylosis in bad position.<sup>1</sup> The purpose of this article is to emphasize the intraperitoneal (surgical) complications of penetration of the implant into the retroperitoneum.

In this case, the K wire had protruded through the acetabular joint and in to the pelvis, the tip of the K wire was 2mm away from the bladder and 14.1mm away from the external iliac vessel, as per radiological imaging. This resulted in the formation of a large retroperitoneal hematoma and its rupture post the history of fall the patient had 10 days before presentation. Slow bleeding of the ruptured hematoma into the peritoneum ultimately resulted in hemoperitoneum and ultimately the patient presented in hypovolemic shock which was a surgical emergency.

In conclusion, this penetration by the implant could be attributed to poor bone quality due to osteomyelitis (tuberculosis), the loss of medial cortical support, false nail entry point, excessive weightbearing of the patient over the affected limb leading to migration of the implant medially into the pelvis through previously perforated acetabulum and the combined effect of all these factors.<sup>2-4</sup>

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