

Broken Acetabular Augmentation cage Causing Multiple Ileal Perforations – A Rare Complication

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Abstract

Background: Complications following total hip arthroplasty (THA) are common. To name a few are loosening, infection, implant migration, nerve palsy and dislocation. We present here a rare case of broken acetabular augmentation cage causing multiple perforations of ileum after three years of total hip replacement and its management with explorative laparotomy.

Case report: In our case, a fifty five year old male patient presented with discharge from surgical site after 3 years of total hip replacement while he was full weight bearing during this period. Suspecting communication with the abdomen, a general surgeon was consulted and exploratory laparotomy was done to repair the perforation in ileal loops and simultaneously the broken cage was removed partially from the abdomen and partially laterally. Patient was in ICU for few days, but he developed septicemia and died in few days after surgery.

Conclusion: There can be numerous complications following THA surgery but the possibility of acetabular cage breakage and migration into abdomen should be kept in mind though its not that common.

Keywords: arthroplasty, acetabular augmentation cage, laparotomy

Introduction

The indications for THA are hip arthritis, avascular necrosis of hip, fracture of weight bearing part of acetabulum or head of femur and failed osteosynthesis for proximal femur fractures in elderly [1][2]. There are postoperative complications associated with THA which include dislocation, wound infection, urinary tract infection and deep venous thrombosis [3]. The three early complications are pulmonary embolism, dislocation and deep infection which usually occur within first three to six months [4]. Other complications are inaccurate reduction, loosening or graft migration [1], malposition especially in rheumatoid patients [5] and nerve injuries [6][7]. Our study is to present an unusual case of

broken acetabular augmentation cage causing multiple perforation of ileum after three years of total hip replacement which was managed with the help of a general surgeon by repairing the ileal loops and extracting out the broken cage.

Case report

A fifty five year old male patient presented with discharge from surgical site and difficulty in weight bearing 3 years after primary total hip replacement done at our institute. The discharge was insidious in onset around 5 months ago. The patient reported significant fall 8 days back but continued to walk full weight bearing. Patient was admitted in the ward and routine investigations, pus culture and X-rays were advised. Radiograph showed that

the acetabular cage was broken and displaced far up in the abdomen (Fig. 1). Suspecting communication with the abdomen an ultrasound was done which confirmed the suspicion. Meanwhile culture reports came as Ecoli and appropriate antibiotics were started. Decision of implant removal was taken and general surgeon colleagues was also involved to perform an exploratory laparotomy. Lateral approach was taken through the prior surgical incision on the hip. The dislocated femoral component was removed with ease but acetabular component was found rigidly fixed and with some sharp edges. Simultaneous laparotomy was done and acetabular component were partly removed through abdominal incision and partly laterally (Fig.

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Figure 1: Pre-op Xray (fracture Dislocation)



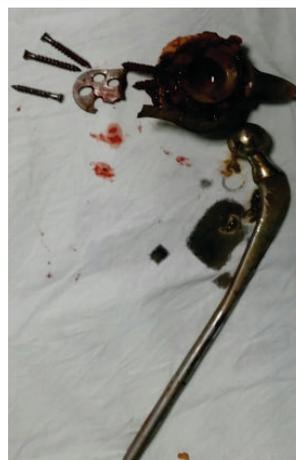
Figure 2: A part of the Cage being removed per abdomen



Figure 3: Ileal loops were found stuck to the cage and were freed carefully. Ileum repair and ileostomy was done



Figure 4: Broken Acetabular Augmentation Cage that was removed from the abdomen an complete implant set that was removed



2). Loops of ileum were found adherent to the sharp edge of broken cage (Fig 3). On careful removal and inspection, the perforation in distal ileum was found and repaired (Fig 3). The abdomen was washed with copious amount of saline and complete hemostasis ensured. A bypass ileostomy was done over two drains, one in Morrison's pouch and other one in pelvis (Fig 3). The broken cage and the femoral stem were put together to check the completeness of implant removal (Fig. 4). Postoperatively patient was admitted in intensive care unit however he developed frank abdominal infection and septicemia. Patient expired within few day of surgery.

Discussion:

There are numerous complications following THA like malposition, dislocation, infection, component loosening, nerve injuries [1-9], peri prosthetic fractures [10] perioperative mortality [11] aseptic loosening [12], recurrent instability [13], osteolysis, cement disease and limb length inequality [14]. In our case study, we present an unusual complication of broken acetabular cage and its migration into the abdomen in a fifty five year old male due to fracture in acetabulum. The fracture and breakage of acetabulum cage was probably due to fall which was reported by patient 8 days prior to presenting to us. He continued to walk on the fracture and subsequently develop intraabdominal dislocation and perforation. One of the reason for such fracture can be local infection which weakened the bones around the acetabulum and caused fracture dislocation of the cage. This can be an indirect consequence of infection and patients should be advised against full weight bearing in case of deep infection and local osteoporosis. Infected THR cases in these scenario should be revised as soon as possible to avoid such complications.

Conclusion:

Possibility of acetabular cage breakage and migration into abdomen is very rare, and in such cases the infection may be due to abdominal contamination. These cases require interdisciplinary approach to tackle intraoperative eventualities

Clinical Message

Such difficult complication require good preoperative planning and preparation of complex hip and abdominal surgeries are to be made. All attempts should be made to remove implant in totality or persistent of infection is a real possibility.

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