Unexpected Irreducible Femoral Hernia During Elective Operation: What is the Best Surgical Approach?

Elektif Ameliyat Sırasında Beklenmedik İndirgenemeyen Femoral Fıtık: En İyi Cerrahi Yaklaşım Nedir?

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ABSTRACT

Femoral hernia is rare and commonly presents with incarceration in emergency situations. From the literature review, there is no femoral hernia reported in chronic irreducible presentation. A 44-year-old female, who was planned for an elective hernia surgery for a chronic irreducible inguinal hernia, was discovered to have an irreducible femoral hernia intraoperatively. Herein, we revisit this diagnostic entity, discuss its misdiagnosis and suggest the best surgical approach when such an unexpected situation happens during an operation.

Keywords: Femoral hernia, femoral hernia repair, hernia, mislead inguinal hernia, operative procedures

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ÖZET

Femur fıtığı nadirdir ve genellikle acil durumlarda hapsedilme ile kendini gösterir. Literatür taramasından, kronik indirgenemez prezentasyonda bildirilen femoral herni yoktur. Kronik redükte edilemeyen kasık fıtığı nedeniyle elektif fıtık ameliyatı planlanan 44 yaşında kadın hastada ameliyat sırasında redükte edilemeyen femur fıtığı tespit edildi. Burada, bu tanısal varlığı tekrar gözden geçiriyoruz, yanlış tanısını tartışıyoruz ve bir ameliyat sırasında böyle beklenmedik bir durum olduğunda en iyi cerrahi yaklaşımı öneriyoruz.

Anahtar Sözcükler: Femur fıtığı, femur fıtığı onarımı, fıtık, yanıltıcı kasık fıtığı, ameliyat işlemleri

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INTRODUCTION

Femoral hernia is a bulge, protrusion, or projection of a part of an organ or an organ through the femoral ring (1). It is relatively rare, with a reported incidence of only 4% in all abdominal hernias (2). It is more frequently seen in females, especially among parous women (2). Femoral hernias commonly present with incarceration, with a risk of viscus strangulation carrying the morbidity and mortality up to 30% and 10% respectively (2). It frequently contains omentum or small bowel, in a rare occurrence, it can contain a vermiform appendix making the presentations and complications are more challenging (3). A femoral hernia can be mistaken as an inguinal hernia because of its tendency to move upwards above the inguinal ligament. In cases of incarceration, it is even more difficult to differentiate inguinal hernia from the femoral hernia. Hereby, we discuss a 44-year-old lady with an unexpected irreducible femoral hernia on the table and we will discuss the best surgical approach for her.

CASE REPORT

A 44-year-old female, with no known medical illness, presented with a painless right inguinal swelling for 2 years. The swelling was reducible on and off initially but became irreducible for the past 1 year. The swelling did not increase in size and the patient could pass motion and urine as usual. She did not have any risk factors such as heavy lifting, chronic cough and constipation. On examination, her abdomen was soft and not tender. A right inguinal swelling was noted, measuring 4x5 cm in size. It was firm, not reducible, not tender and not erythematous.

She was electively scheduled for right inguinal hernioplasty under daycare operation. Intraoperatively, the right hernial sac was found to be below the inguinal ligament. External aponeurosis remained intact and the hernial sac was unable to be reduced. The hernial sac was incised and examined, which revealed that part of the omentum adhered to the sac. In view of the anatomical position of the hernial sac and content, it was most likely an irreducible femoral hernia. Adhesiolysis and partial omentectomy were done, while the residual healthy omentum was reduced. The sac was ligated and transfixed, followed by an approximation of pectineus to the inguinal ligament. A mesh was tailored and implanted with an anchoring suture. Post-operatively, the patient was well and discharged from daycare. She was subsequently followed up as an outpatient and recovered well without complications.

DISCUSSION

Femoral hernia is usually presented in an emergency setting in the form of acute incarceration, obstruction or strangulation. From all the literature review, there is no case reported as a chronic irreducible femoral hernia as the possibility of incarceration is higher. The challenge in managing a chronic irreducible femoral hernia is it might mislead to inguinal hernia because (i) the irreducible sac limits the use of cough impulse and occlusion test, (ii) chronic irreducibility is more likened to inguinal hernia, and (iii) a femoral hernia tends to move upwards above inguinal ligament as its progress.

Classically, there are 3 surgical approaches for open femoral hernia repair: McEvedy's high approach, Lotheissen's trans-inguinal approach and Lockwood's infra-inguinal approach (4). Firstly, the infra-inguinal approach, which is the preferred method for an elective case. An oblique incision is made 1 cm below and parallels to the inguinal ligament and the femoral canal is approached from below. However, this approach has limited scope in the condition of compromised bowel (4). Secondly, the trans-inguinal approach. Through an incision 2 cm above the inguinal ligament, the inguinal canal is dissected through, thus weakening the inguinal structures. In recurrent hernia, it will be difficult to repair again with the open method. Although this approach has the advantage of managing necrotic bowel, the synthetic mesh should be avoided in contaminated fields that predisposes to hernia recurrence (4). Thirdly, the high approach is preferred in cases of bowel strangulation; this approach allows better access to bowel visualisation and possible resection. An oblique skin incision is done 3 cm above the pubic tubercle, running laterally to cross the lateral border of the rectus muscle, allowing the preperitoneal dissection of the hernial sac (4).

Paolo et al innovated a new approach through 1 cm above the inguinal ligament, so that it can tackle both inguinal and femoral hernia at the same time, and the outcome is good (4). There are some other literature reviews that introduce the use of mesh plug or mini mesh in femoral hernia repair with good outcomes (5). Before the operation, we noticed that the hernial sac involved above and below the inguinal ligament but more so below, therefore our incision was made 1cm above the inguinal ligament. Intraoperatively, the sac originates from below the inguinal ligament, extending upwards. The inguinal canal was intact, thus it is a femoral hernia. The inguinal canal was left untouched and external aponeurosis remained intact without exploration. Fortunately, through the lower incision, a femoral hernia can be easily repaired.

A femoral hernia should always be considered as one of the differential diagnoses for groin hernia in parous women. In suspected or ambiguous cases, it is recommended to use an incision 1 cm above the inguinal ligament so that both inguinal and femoral hernia can be managed at the same time. The inguinal canal should not be explored in femoral hernias because the inguinal structures can be damaged and weakened, predisposing to an inguinal hernia in the future.

The classical approach is still beneficial in different hernia conditions and depends on the preference of the surgeon. However, this simple technique (I would call it modified Lotheissen) minimizes the preoperative debate, allows the simultaneous approach to inguinal and femoral hernia and further skin incision if a strangulated bowel is encountered, requiring bowel resection. In the future, more studies will be needed to assess this approach to prove that it can be used in all groin hernia repairs.

CONCLUSION

A femoral hernia should always be one of the differential diagnoses for groin hernia in parous women. In suspected or ambiguous cases, an incision 1cm above the inguinal ligament is recommended so that both inguinal and femoral hernia can be managed at the same time. The inguinal canal should not be explored in the femoral hernia to avoid damaging and weakening the inguinal structures. Modified Lotheissen's approach has all the benefits of all three classical approaches.

Conflict of interest
No conflict of interest was declared by the authors.

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