Femoral Hernia in Children: A Case Report

Hayat ur Rehman

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INTRODUCTION

A femoral hernia (FH) is defined as protrusion of abdominal contents (viscera, omentum, fat) through the femoral hiatus. Femoral hernia occurs infrequently in adults and even less so in children[1]. Fosburg's survey indicates that many surgeons have not seen a femoral hernia in a child during their whole professional life. Among adults there is 1 femoral hernia for every 20 inguinal hernias and among children the relative incidence is variously reported as 4-8 per one thousand inguinal hernias. The commonest age group reported in the literature is 4-10 years[2,3].

As femoral hernias are rarely seen in children, so it is always challenging to diagnose femoral hernias in children. A study at Buffalo's children hospital reported the incidence in children to be 0.3 %. Pediatric femoral hernias are rather uncommon and more so in males, are often overlooked, misdiagnosed and treated as inguinal hernia[2].

A femoral hernia presents as a mass located lateral to and below the pubic tubercle, inferior and posterior to the inguinal ligament and medial to the femoral pulse. It occurs in about 0.5% of all groin hernias in children. The diagnosis of a femoral hernia is challenging, and the correct preoperative diagnosis is usually not made in many children. Most often, it is misdiagnosed, and only during surgery for a suspected inguinal hernia the precise diagnosis is made.

The clinical signs and symptoms of a femoral hernia are a bulge below the inguinal ligament and lateral to the pubic tubercle; the mass appears on straining or coughing, and reduces in size or disappears when the patient lies supine; and there may be a cough impulse. A femoral hernia can remain unnoticed for a long period until it incarcerates, drawing the attention of the patient to the problem for the first time. Incarceration of paediatric femoral hernias is a very rare occurrence, however. In the available series of childhood femoral hernias, 6065% are found on the right side, 2530% on the left, and 1015% are bilateral[3].

Department of Paediatric Surgery
MTI MMC/BKMC, Mardan

Dr Hayat ur Rehman
Assistant Professor Paediatric Surgery
MTI MMC/BKMC, Mardan
Email: drhayat99@hotmail.com Mob no 03339129910

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CASE REPORT

A 12 years old male child presented with an inguinal swelling and frequent bilious vomiting for about 12 hours duration. He developed pain at the site of swelling but no history of abdominal pain or vomiting in the past. There was no previous history of recurrent swelling at right groin or constipation noted before. No history of similar complaints in other siblings. There was no history of surgery in the past.

On examination, the child was of average built with abdominal distention. There was a visible swelling at the right groin located lower than the normal site of the inguinal hernia which was tender, non-reducible and firm in consistency with positive cough impulse. Left inguinal region and both scrotum were normal. A clinical diagnosis of right incarcerated congenital indirect inguinal hernia was made and the patient was planned for herniotomy. Patient was admitted and baseline investigations were done. Patient was prepared for surgery and operated using open technique. The hernia was approached through inguinal incision just above the swelling location. When the sac was opened it was found running below and deep to the inguinal ligament so the external oblique was not opened. On exploration of the spermatic cord it was found normal running out from the external inguinal ring towards the scrotum and no hernial sac was found in it. The small bowel found inside the femoral hernia sac was found viable and reduced spontaneously while omentum was reduced manually. The hernial sac was transfixed and ligated. The inner side of inguinal ligament was approximated with lacunar ligament on the medial end and pectineal ligament laterally using prolene 3/0 with three interrupted sutures. The patient did well postoperatively and was discharged home the next day. The patient was followed up for some time and no complication including recurrence was observed.

An incarcerated femoral hernia masquerading as inguinal hernia in a 12 years old male is reported as an interesting surgical experience along with review of relevant literature to keep a statistical record. As we observed this surgical pathology in a male child, the aim of reporting this case is twofold: one, femoral hernia is quite uncommon in the paediatric age group, two, it is also rarer in the male quarter of the population.

DISCUSSION

Femoral hernias are rare in children. Most of the studies report an occurrence of less than 1% of all groin hernia[4,5,6]. Historically Sir Astley Cooper described in 1827 the first two cases of femoral hernias in the paediatric age group in two girls. The etiology of femoral hernia is still a matter of discussion[3,7]. McVay and Savage's hypothesis in 1961 that a congenital narrow posterior inguinal wall attachment onto Cooper's ligament with a resulting enlarged femoral ring is the important anatomic factor is still accepted by many[1,8]. Others have suggested an acquired genesis related to increased intra-abdominal pressure. However, in children with femoral hernias the conditions leading to femoral hernia were not observed or reported[1, 7]. The diagnosis of femoral hernia in children is still a challenging issue. In previous reports, the diagnostic accuracy ranged between 25% to 40% which increased to 90% by combining increased awareness and a careful examination of a hernia.9 Several reports have documented that 40-67% of femoral hernias were incorrectly diagnosed preoperatively[10,11,12]. This may be due to the fact of rarity of the condition in children, since the most common reasons for preoperative mis-diagnosis are failure to consider such a diagnosis. The other reason might be the common differential in the form of inguinal hernia and inadequate examination. A femoral hernia should be suspected to make the correct intra-operative diagnosis when the surgeon encounters totally normal inguinal anatomy or a disproportionately small defect compared to the size of the preoperative bulge[9]. In such situations, the normal inguinal floor should be incised to visualize the femoral canal.5 In our case because of the irreducibilty and incarceration it was easier to follow the mass running deep to the inguinal ligament.

We did not observe any Marfan like features in the case mentioned. In another study four cases (33%) were reported with Marfan-like features. We believe that cases with musculo-skeletal disorders presenting with groin hernias should have special attention for the possibility of femoral hernias[13].

Various techniques both open and laparoscopic procedure have been described to repair femoral hernias extending from simple dissection and ligation of the hernial sac to complex procedures[11, 14]. We used the open technique for the incarcerated femoral hernia presumed as incarcerated inguinal hernia through the inguinal approach.

In conclusion the aim of reporting this case is further evidence to bring increased awareness to correctly diagnose femoral hernia either preoperatively or intraoperatively to avoid a nontherapeutic failed inguinal herniorrhaphy resulting in recurrence of hernia and possibly multiple interventions.

CONCLUSIONS:

Femoral hernia in childhood is a challenging clinical problem because of its rarity which always perpetuate a misdiagnosis of an inguinal hernia. The absence of an expected indirect inguinal hernia sac or an apparent recurrence of an indirect inguinal hernia should lead to consideration of a possible femoral hernia.

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