Femoral hernias in the pediatric patient: a case report and review of the literature

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We report a case of a femoral hernia in a 9-year-old male. Femoral hernias in children are rare and a diagnostic challenge. Definitive treatment is with surgical repair.

Key Words: femoral hernia, hydrocord, hydrocele, inguinal hernia

Introduction

Femoral hernias in children are exceedingly rare. While most common in elderly females, they account for less than 1% of all pediatric hernias.[1-6] The preoperative diagnosis of a femoral hernia is challenging and the incorrect diagnosis often made.[2,7,8] Due to the potential for strangulation, surgical correction is important. We report a case report of a 9-year-old male that presented to the urology clinic with groin swelling that was previously diagnosed as a hydrocord. Our case emphasizes that including femoral hernias in the differential diagnosis of any groin mass is important.

Case report

A 9-year-old boy presented with left sided inguinal swelling that had been present for at least several years. The patient had been evaluated by a pediatric surgeon in the past and diagnosed with probable communicating hydrocele of the cord. The family was advised that it would likely resolve on its own. They returned several years later for evaluation by pediatric urology, as it had not yet resolved. He denied any pain but did report the swelling improved with urination. His past medical history was otherwise remarkable for chronic gastrointestinal complaints of nausea, vomiting, and intermittent diarrhea for which the patient was currently being worked up with upper endoscopy. Review of his records also revealed recurrent upper respiratory symptoms and pharyngitis. His past medical history was otherwise unremarkable.

On exam the patient had a left groin bulge at the level of the inguinal ligament. We were unable to palpate the spermatic cord and the bulge could not be reduced. The patient was circumcised and his testicles were descended bilaterally without any palpable hydrocele or other abnormalities. His abdomen was otherwise soft and non-tender. His preoperative assessment was a left hydrocord versus inguinal hernia.

The patient was brought to the operating room for left inguinal exploration. A 2.5 cm incision was made at the midpoint from the pubic symphysis and left iliac crest. On groin exploration, a mass was found to be protruding from below the inguinal ligament and through the femoral canal. The hernia was reduced, the hernia sac excised and a simple Cooper ligament (McVay) repair performed. The procedure was tolerated well without any complications. The diagnosis was left femoral hernia. The hernia sac was sent to pathology and returned as benign fibro-adipose tissue. See Figure 1.

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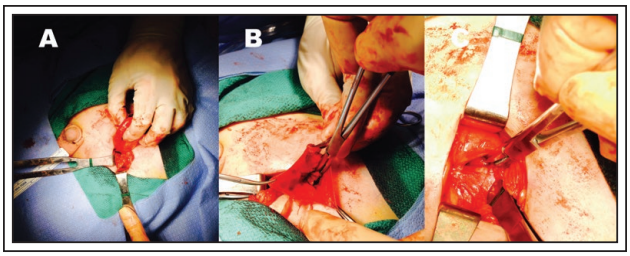

Figure 1. A) Left inguinal mass on groin exploration consistent with femoral hernia. **B)** The hernia is reduced, the sac is isolated and opened. **C)** The McVay repair has been completed.

Discussion

Femoral hernias are defined as a hernia located lateral to and below the pubic tubercle and inferior/posterior to the inguinal ligament. Femoral hernias, especially those that are incarcerated, are exceedingly rare in children.[1-6] The peak incidence in children is between 5-10 years old[2] and the sex distribution in most literature is described as approximately equal.[3] While the etiology is unknown, it is conventionally thought to be a congenital defect stemming from a narrow posterior inguinal wall attachment to Cooper's ligament and a resulting enlarged femoral ring.[4,5] However, others believe the defect may be acquired and related to a previous inguinal hernia repair or other conditions resulting in increased intra-abdominal pressure.[6]

The preoperative diagnosis of a femoral hernia is challenging and often not made until surgical exploration.[2] Ultrasound may assist in the diagnosis.[7] Patients usually present with a recurring and reducible groin lump. A total of 214 pediatric patients with femoral hernias were found by Radcliffe and Stringer on an English literature review since 1965.[2] Most of the hernias were right sided (58%) while 29% were left sided and 13% bilateral. Approximately 14% of the hernias were incarcerated or strangulated.

Most surgeons perform a McVay repair.[3,8] In a series of 17 patients undergoing McVay repair, no reoccurrences were reported.[3] However, other methods have been described including more recently laparoscopic repairs.[9]

While only speculative, our 9-year-old patient did suffer from recurring upper respiratory infections, which may be consistent with the hypothesis that some femoral hernias occur from increased intra-abdominal pressure.[6] Additionally, the patient described the mass becoming smaller with urination, indicating the increased pelvic pressure from his distended bladder may have also contributed. At our institution, there is one other recorded case of a pediatric femoral hernia occurring in a 22-month-old male.[10] He also presented with a recurrent bulge in the right groin. On exploration he was found to have an indirect hernia, which was repaired without any immediate complications. Two months following the surgery, the patient presented with a new bulge inferior to the previous indirect hernia in the right groin. Although preoperatively he was expected to have a recurring indirect hernia, on re-exploration a femoral hernia was discovered and repaired. In contrast to our 9-year-old patient, this case is more consistent with the hypothesis that a previous inguinal hernia repair may predispose patients to forming femoral hernias.[6]

Conclusion

Femoral hernias are a diagnostic challenge and an exceedingly rare occurrence in childhood. Preoperative diagnosis is often not made, but good outcomes with traditional McVay repair have been reported. Inclusion of a femoral hernia in the differential diagnosis of any groin mass in the pediatric patient is important. □

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