

# Femoral Hernia in Childhood, an Infrequent and Misdiagnosed Problem.

*Tariq Abu Esbeih, MD and Osama Abu Salem,\* MD.*

*Department of General Surgery- Prince Rashid Ben Al Hassan hospital  
Royal Jordanian Medical Services*

## Abstract

**Objectives:** This is a retrospective study of 12 patients with a childhood Femoral hernia who were treated at some of the military hospitals in north and south of Jordan during January 1994 to January 2004.

The aim of our study was to review our experience with femoral hernia in children during the past 10 years.

**Methods:** We reviewed retrospectively the medical records of all children patients who underwent femoral hernia repair. Age, gender, presentation; surgical findings and procedures were recorded.

**Results:** There were 8 girls (66.7%) and 4 boys (33.3%); age range was 2-9 years. Seven were right sided (58.3%) and 5 were left sided (41.7%) and none was bilateral. Ten patients with a lump in the groin, two with a recurrent lump in the groin, duration of symptoms ranged from one day to 3 years.

The correct diagnosis was not made clinically in any of the cases preoperatively.

Ten cases were misdiagnosed as inguinal hernias and two cases presented with recurrent groin masses after they had undergone inguinal exploration less than 2 months before.

**Conclusion:** Femoral hernia in childhood is a challenging clinical problem because of its rarity and a similar clinical presentation as indirect inguinal hernia.

During an operation for inguinal hernia, it is essential to think of femoral hernia when hernial sac is not found.

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## Keywords

Femoral hernia, inguinal hernia, childhood.

## Introduction

Femoral hernia is a groin hernia because it passes through the fascia of the abdominal wall at the level of the femoral vessels. <sup>1</sup> It passes through two openings first is into the femoral canal which is the inner compartment of the femoral sheath, it is 1.2 cm long and 1.2 cm wide, the second in the fossa ovalis or saphenous opening which is an opening in the fascia of the thigh, it is 4 cm below and 4 cm lateral to the pubic tubercle. <sup>2</sup>

The femoral canal contains fat and a lymph node belonging to the 3 deep subinguinal groups.

The overriding importance of femoral hernia lies in the fact that of all hernias, it is the most liable to become strangulated mainly because of the narrowness of the neck of the sac and the rigidity of the femoral ring. <sup>3</sup>

Femoral hernias are uncommon at any age but are extremely rare in infancy. <sup>4</sup>

## Methods

All patients under 15 years of age who underwent femoral hernia repair between January 1994-January 2004, were a case note review, they attended the surgical Clinic in both north and south of Jordan.

Age, gender, presentation, surgical findings and procedures were recorded as well as data concerning the operation; pre and postoperative treatment were recorded retrospectively.

The patients were followed at 3 months and at one year after the operation.

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**Correspondence should be addressed to:**

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**Osama Abu Salem, MD**  
**P.O. Box: 620033-Irbid-Jordan**  
**E- mail: [Osamaabusalem@hotmail.com](mailto:Osamaabusalem@hotmail.com).**

## Results

The study involved 12 patients, eight girls (66.7%) and 4 boys (33.3%). The mean age was between 2 and 11 years. The total number of children with inguinal swelling attended the clinic within the period of January 1994-January 2004 were about 900.

Seven cases were right-sided (58.4) and five were left sided (41.6%) and none- was bilateral.

In this series, girls were more commonly affected than boys but a literature review revealed a similar sex incidence.

Ten patients presented with a lump in the groin, the correct diagnosis was not made in any of the patients preoperatively, the diagnosis of femoral hernia was suspected during the operation when in spite of careful surgical exploration no inguinal hernial sac was found, this was followed immediately by infrainguinal exploration medial to the femoral vessels where the diagnosis of femoral hernia was confirmed and dealt with.

The other two patients were operated upon after what seemed to be an adequate herniotomy but they recurred, one with early recurrence of groin swelling (after 2 days) and the other one after two months of recurrent swelling near the site of a previous operation at the groin.

## Discussion

Femoral hernia is defined as a protrusion of a viscera or omentum occurring through the femoral hiatus,<sup>5</sup> the hernial contents protrude posterior to the inguinal ligament, lateral to the lacunar ligament (which is composed of fascial attachments medially, located above the inguinal ligament, and medial to the femoral vein).<sup>6</sup>

Peak incidence occurs between five and ten years of age although there is no consensus on the age and sex distribution.<sup>7</sup>

Femoral hernias account for less than 1% of all pediatric groin hernias.<sup>8</sup> Mcvay expressed that the etiology was a congenitally narrow posterior inguinal wall attachment into Cooper's ligament with a resultant enlarged femoral ring.<sup>5</sup>

Femoral hernia is a rare surgical entity in the pediatric age group, the diagnosis is still a challenging issue because of a similar clinical presentation as indirect inguinal hernia.<sup>9</sup>

The frequency with which an incidental indirect inguinal hernia sac or patent processes vaginalis can be found at surgery can perpetuate misdiagnosis.<sup>10</sup>

Preoperative diagnosis is possible if the bulge appears in a location inferior and lateral to that of the commonly occurring indirect hernia.<sup>11</sup>

Careful examination and awareness of the possibility of femoral hernia in children are very important when dealing with groin swelling in children.<sup>12</sup>

Children present with a recurrent groin lump that is usually reducible. Early recurrence of a groin swelling after what seems to be an adequate inguinal exploration should be suspected of having a missed femoral hernia.<sup>5</sup>

In the Japanese literature, 25 cases of femoral hernias have been reported in children aged one month-nine years (average age 4 years).<sup>12</sup>

Excision of the sac and repair of the femoral canal is curative, we adopted this way of treatment in our patients. At surgery Cooper's ligament (Mcvay), repair is the surgical treatment of choice, though some contend that simple repair of the femoral ring carries good long term results.<sup>5</sup>

Recently, repair of the femoral hernia with mesh plug has gained wide popularity in adults and was applied successfully in children.<sup>7</sup>

Laparoscopic groin exploration may be a valuable means of evaluating children with presumed recurrent inguinal hernias, and several studies showed the safety and feasibility of laparoscopic groin exploration and femoral hernia repair in children. However, its advantages such as superior diagnostic ability and simultaneous bilateral tension free repair, need to be validated with a larger study and longer follow up.<sup>13</sup>

## Conclusion

Femoral hernia is still a commonly misdiagnosed condition, at operation the absence of an expected inguinal indirect hernial sac or an apparent recurrence of an indirect inguinal hernia should lead to consideration of a possible femoral hernia.

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## الفتق الفخذي بالأطفال، مشكلة متشابهة وغير شائعة

د. طارق ابو صبيح، د. أسامة ابو سالم

قسم الجراحة العامة - مستشفى الأمير راشد بن الحسن - الأردن

### ملخص:

أجريت دراسة مرجعية لـ 12 مريض يعانون من فتق فخذي، تمت معالجتهم في المستشفيات العسكرية بالأردن خلال فترة كانون الثاني 1994 وحتى نهاية كانون الثاني 2004 . هدف هذه الدراسة هو إعادة تقييم خبرتنا بمعالجة الفتق الفخذي بالأطفال خلال العشرة سنوات السابقة.

### الطرق:

تمت مراجعة الملفات الطبية للأطفال الذين تمت معالجتهم للفتق الفخذي، ودراسة العمر، والجنس، الحالة المرضية، والموجودات الجراحية وطريقة العملية.

### النتائج:

- كان هنالك 8 إناث (66.7%)، و 4 ذكور (33.3%).  
- العمر يتراوح بين 2-9 سنوات، 7 حالات كانوا بالجهة اليمنى (58.3%)، خمسة حالات بالجهة اليسرى (41.7%) ، ولم يكن أياً منهم يعاني من فتق فخذي بالجهتين.

- 10 مرضى كانوا يعانون من كتلة في الأرب، اثنين كانوا يعانون من كتلة راجعة في المنطقة الاربية، الظواهر السريرية كانت تتراوح بين يوم واحد وحتى 3 سنوات.  
- التشخيص الصحيح لم يتم سريرياً في أي من الحالات قبل العملية.

- عشرة حالات تشابه تشخيصهم بالفتق المغبني، وحالتين تمثلوا بكتلة اربية راجعة بعد عملية رتق مغبني بفترة أقل من شهرين.

### خاتمة:

الفتق الفخذي بالأطفال تمثل حالة تحدي تشخيصية كونها نادرة، ومتماثلة الظواهر السريرية مع الفتق المغبني الغير مباشر.

خلال عملية الفتق المغبني من الضروري التفكير بوجود فتق فخذي عند عدم وجود فتق مغبني.

### الكلمات الدالة:

فتق فخذي، مغبني، أطفال.