Obstructed Inguinal hernia in pediatrics / timing of the operation and its relation with complications rate

• بإشراف الأستاذ الدكتور:
• أسامة إسماعيل المشهداني
<table>
<thead>
<tr>
<th>Researchers</th>
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<tbody>
<tr>
<td>مريم نزار ذنون</td>
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<td>عمر كريم نجم</td>
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<td>سلوان طه سرهيد</td>
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<td>ميس سامي نوري</td>
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<td>وفاء دانيال جبو</td>
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<td>رؤي محمود أحمد</td>
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<td>علي عباس جاسم</td>
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<td>شيماء ذنون يونس</td>
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<td>نور خالد محمد</td>
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<td>شروق حسام الدين</td>
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What is Inguinal hernia?

- Hernia is a lump or protrusion of an organ (usually the small bowel or fatty material), through a weakness or opening in the muscle wall of the abdomen. It is usually seen as a bulge under the skin.
- Inguinal hernia occurs in the groin region.
The reported incidence of inguinal hernia in children ranges from 0.8% to 4.4%.

**Age**

Approximately one third of children are younger than 6 months of age at the time of operation. The highest incidence of hernia is found in premature infants, 16% to 25%. This correlates fairly well with the patency rates of the processus vaginalis.

**Sex**

Male to female ratios between 3:1 and 10:1. Although premature infants have a higher incidence of hernia.
Clinical Features

- There is typically a history of intermittent bulge in the groin, labia, or scrotum.

- It is most often apparent when there is increased intra-abdominal pressure such as during episodes of crying or straining.

- Hernias may present at birth or not until days, weeks, months or even years later, but the defect to a variable extent has been there since birth.
What happens if no therapy is given?

This will lead to incarceration of the inguinal hernia that manifested as the following:

1- Irreducibility.

- Pain.
- blocking of the lumen of the intestines.
- Intestinal obstruction
- abdominal distension
- Vomiting.

If not relieved

Gangrene of the intestines.

2- Testicular infarction (Black testis in infants).
- The incidence of incarcerated in full term infant is 6% to 18%.

- In premature infants it is 18% and 31%.

- The incidence of testicular atrophy after an incarcerated Inguinal hernia varies from 0% to 11.7%.

- Cyanotic testis at surgery present in approximately 2.2% to 5% of cases.

- The reported incidence of intestinal infarction requiring resection after incarcerated is 1.4%

- The overall death rate associated with incarcerated inguinal hernia is 0.3% to 3%.
Management

-An inguinal hernia will not resolve spontaneously, so surgical closure is always indicated.

-Some reports suggest 90% of complications can be avoided if repair is undertaken within 1 month of diagnosis.

More recently Langer and colleagues found that repair undertaken within 2 weeks decreased the rate of incarceration by half compared with a 30-day wait.
Postoperative Complications

1. Bleeding
2. Wound infection
3. Injury to Ilioinguinal nerve
4. Injury to vas deferens
5. Testicular atrophy
6. Iatrogenic ascended testis
7. Post operative Hydrocele
8. Recurrence
9. Metachronous contralateral hernia
10. Anesthetic risk
Aim of the study

The timing of performance of surgical intervention of inguinal hernia is very important to be done as soon as possible to prevent complication of hernia like obstruction & incarceration.

In this study we want to know whether the doctors deal with pediatrics give the proper advice regarding the timing of doing the operation or not.
Patients and methods

1-Collection of data of patients underwent obstructed inguinal hernia repair in Al-khansaa teaching hospital between 2011-2012. We collected information regarding the age, sex, site and whether the patient had been diagnosed as having inguinal hernia or not and if already diagnosed, what was the doctor's advice regarding the timing of surgery.

2-Questioner for doctors deal with pediatrics, regarding the proper time of doing the operation for inguinal hernia was conducted.
The Questioner collected from different governorates such as Al-Mosul, Al-Anbar, Babil & Kirkuk. The question was:

If you receive a one month old neonate with inguinal hernia what is your advice regarding the proper timing of surgery?

1- within one week.
2- After 6 months.
3- After one year.
4- After 2 years.
Patients and methods

The total Questioners were:

- 47 from Al-khansaa teaching hospital
- 23 from Al-salam teaching hospital
- 44 from Ibn Al-ather teaching hospital
- 32 from Al-Gomhori teaching hospital
- 18 from Ibn-sena teaching hospital
- 10 from Aazadi teaching hospital
- 6 from Al-Ramadi teaching hospital
- 4 from Babil hospital
- 3 from Al-Hawija hospital
- 46 from special clinics
Results

Table 1- no. of child presented with obstructed hernia to pediatric surgery department-(Al-khansaa hospital ) according to age group :-

<table>
<thead>
<tr>
<th>Type of patient</th>
<th>Below one year</th>
<th>percentage</th>
<th>Above one year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child presented with obstructed hernia</td>
<td>120</td>
<td>90 %</td>
<td>13</td>
<td>10 %</td>
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</tbody>
</table>
### Table 2 – No. of child with obstructed hernia <1yr of age

<table>
<thead>
<tr>
<th>Type of patient</th>
<th>No. of child</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child with hernia advised to do operation &gt;1yr</td>
<td>48</td>
<td>40%</td>
</tr>
<tr>
<td>Child with hernia on waiting list</td>
<td>18</td>
<td>15%</td>
</tr>
<tr>
<td>Child with no information</td>
<td>42</td>
<td>35%</td>
</tr>
<tr>
<td>First presentation as obstructed hernia</td>
<td>12</td>
<td>10%</td>
</tr>
</tbody>
</table>
Table 3 – Type of advice according to questioner

<table>
<thead>
<tr>
<th>Number of dr.</th>
<th>Type of advice</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>99</td>
<td>One week of diagnoses</td>
<td>42.5%</td>
</tr>
<tr>
<td>54</td>
<td>&gt;6 months of diagnoses</td>
<td>25.4%</td>
</tr>
<tr>
<td>66</td>
<td>&gt;one year of diagnoses</td>
<td>28.3%</td>
</tr>
<tr>
<td>14</td>
<td>&gt;2 years of diagnoses</td>
<td>6.6%</td>
</tr>
<tr>
<td>233</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>
- According to Al-khansaa teaching hospital, data base that collected in 2011-2012 we found that the children who visit the emergency department with obstructed hernia was 134 and from all these incarcerated hernia the number of those below one year was 120. So, we observe that the smaller age associated with higher complication if not manage as soon as possible from diagnosis.
When we collect data from doctors in questioner, we found that 57% of them who delay operation time after 1 year. This improve that more than 40% of infant who had advice from doctors to do operation after 1 year, and then came to emergency department as an emergency incarcerated cases in Al-khansaa teaching hospital.

-So the obstructed inguinal hernia is due to wrong recommendation of the doctors to deals with pediatrics.

Our aim from this study to decrease the number of complication and want from doctors to aware about the optimal time of operation and to protect the children and their family from risk outcome from emergent surgery.
Conclusion

Most of cases of obstructed inguinal hernia were below one year of age and one of important causes is the wrong advice from doctors who recommended to delay the operation till the age of 6-24 months and other due to long waiting list.
Recommendation

1- Improvement of doctors awareness about importance of perfect timing of surgery for inguinal hernia in child age group patients.

2- Motivation of parents to give agreement to surgeon for operation as soon as the child diagnosed to have inguinal hernia.
Reference


6- Coran ; Pediatric Surgery

7- Dr. Vivek M. Rege Pediatric Surgeon & Pediatric Urologist B J Wadia Hospital For Children, Hurkisondas Hospital, Wockhardt Hospital, Mumbai


شكر وتقدير

- إلى عادة كلية طب نينوى
- إلى الهيئة المسؤولة عن المؤتمر
- إلى الدكتور ألفاضل أسامة إسحاقي ألمشهداني المشرف على البحث
- إلى الدكتور محمود حميد لنصائحه القية
- إلى الكادر الصحي من مستشفيات و مراكز صحية كافة
شكراً
لإصحافكم

THANK YOU