MANAGEMENT OF INGUINAL Hernia IN CHILDREN

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ABSTRACT

A hernia is a weakness in the muscular structure of the wall of the abdomen. This problem causes a bulging or swelling of the abdominal wall. An inguinal hernia occurs when tissue pushes through a weak spot in groin muscle. Hernias may be congenital or be acquired later in life after repetitive heavy strain or injury to this abdominal wall. The objective of this study was to educate the patients about possible post operative complications and rare recurrence of inguinal hernia after surgery and to ensure complete patient compliance with the treatment given. A retrospective study was conducted on the 30 patients undergoing treatment of inguinal hernia including neonates, infants and children. Surgery is the only treatment that can permanently fix a hernia and secures the weakened abdominal wall tissue and will close any holes and used for hernias that are getting larger or are painful. As patients are young children, parents should be guided well enough about the pre-operative and post-operative care and ensure complete patient compliance with the treatment given and awareness of the patient about why and when to come for follow up visits.

KEY WORDS: acquired, congenital, groin, inguinal hernia, infants, neonates
INTRODUCTION

The protrusion of an internal organ or its part through a hole or wall of cavity in which it is present is called Hernia.\(^1\)\(^2\) Hernia is mostly congenital (present at birth) due to congenital opening or sac but this sac remain closed without any symptoms in early life and become visible with enlargement in any period of life with pain or as a bulge causing progressive symptoms or it may be acquired with increased pressure, injury to the muscles of the weak abdominal wall called inguinal floor. The pressure inside the abdomen pushes the abdominal contents through this defect\(^3\).

An inguinal hernia becomes evident when tissue pushes through a weak spot in abdominal wall of groin muscle so a bulge appears in the groin or scrotum. The Inguinal hernia and Umbilical hernia are two types present mostly in Infancy and Childhood.\(^4\)

Inguinal or groin hernia is the most common site of hernia in adults and second only site after umbilical hernia in children and infants. Inguinal hernia mostly occur in those children who have parent or any sibling having inguinal hernia in infants, cystic fibrosis, developmental dysplasia of the hip, undescended testes, abnormalities of the urethra and often inguinal hernias occur in 1 to 3% of full term infants but 3 times more happen in premature infants or in children with urogenital anomalies, mostly occur in the right side than the left, but can occur on both sides.\(^5\) Inguinal hernia have two types one is reducible and other is non reducible. In reducible type of hernia, children seem to be comfortable and act normally in all activities and bulge can never be seen but appear when child cough, cry, laugh, strain or with heavy lifting exercise but it come back to normal position in resting or relaxed state. The physician can gently push this bulge when children are in lying down position and will get smaller and will go back in the abdomen cavity. In non reducible type of hernia, the loop of intestine become trapped (incarcerated) in the weakened area of
abdominal muscle and this portion of intestine lose its blood supply and swelling or bulge become permanent with pain in some patients and it can extend down into the scrotum in boys and into the labia in girls.\(^6\)

The main symptoms of this type are nausea, vomiting, sudden pain and swelling, a feeling of heaviness, tugging, or burning in that area but when patient lie down these symptoms may get better however each child may suffer from symptoms differently.\(^7\)

The inguinal hernia mostly presents congenitally and occurs in newborns but may not be noticeable for several days, months or even years after birth. The straining and crying and other activities can never cause hernia however cause already existent hernia more prominent\(^8\)

The surgical treatment is the only option for permanent fixing of inguinal hernia. However not necessary for smaller hernia with no symptoms and can sometimes be watched but surgery may have more complications with patients having serious medical problems. Surgery is the option for that type of hernias that become larger, painful and incarcerated (trapped) and cause discoloration.\(^9\)

The weakened abdominal wall tissues (fascia) secure by surgery and will close any holes in it. Today, cloth patches are used to close most hernias to plug up the holes. Open mesh surgery and laparoscopy are the two methods of surgery. Open mesh surgery is the most commonly used procedure but laparoscope (camera) can be used for inguinal hernia repairing. The small surgical cuts, faster recovery, and less pain after the procedure are the advantages of using camera in surgery.\(^10\)

**MATERIALS AND METHODS**

A descriptive study was conducted to observe the risk and benefits of using different procedures in the treatment of inguinal hernia and the management of inguinal hernia in children.
Study Design

Location of the study was Children Hospital Lahore. Sample size of 30 patients was selected for retrospective study. Duration of study was 15 days. Inclusion criteria of this study was the target population was the patients undergoing treatment of inguinal hernia including neonates, infants and children and Exclusion criteria was the adults that were excluded from study. Data was collected from 15/06/2011 to 30/06/2011. A group of 30 patients were observed for retrospective study. A data collection form was developed to obtain patient history, patient complaints and management regarding disease. Data collected was analyzed and presented in the form of graphs and tables. Results were derived and conclusion presented. The study was approved by Department of Pharmacy, LCWU and respective hospital.

RESULTS

1) Types of inguinal hernia………

<table>
<thead>
<tr>
<th>Type of Hernia</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congenital (indirect)</td>
<td>20</td>
<td>66.66%</td>
</tr>
<tr>
<td>Acquired (direct)</td>
<td>10</td>
<td>33.33%</td>
</tr>
</tbody>
</table>

a) 66.66% of patients suffered from congenital type of hernia.
2) Side of occurrence of inguinal hernia ........

<table>
<thead>
<tr>
<th>Side</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right side</td>
<td>20 = 66.66%</td>
</tr>
<tr>
<td>Left side</td>
<td>10 = 33.33%</td>
</tr>
</tbody>
</table>

b) 66.66% of patients had right inguinal hernia (RiH).

3) History of obstruction or discoloration........

<table>
<thead>
<tr>
<th>History</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>20 = 66.66%</td>
</tr>
<tr>
<td>No</td>
<td>10 = 33.33%</td>
</tr>
</tbody>
</table>

c) 66.66% of patients had history of obstruction and discoloration.

4) History of swelling.........
d) 73.33% patients had history of swelling.

5) Type of swelling .............

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced</td>
<td>25</td>
</tr>
<tr>
<td>Permanent</td>
<td>5</td>
</tr>
</tbody>
</table>

Reduced 25= 83.33%  Permanent 5= 16.66%

e) 83.33% patients had reduced type of swelling

6) Prescribed treatment.............
Management of Inguinal Hernia in Children

The prescribed treatment is surgery for 100% patients.

### 7) Prescribed type of surgery

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open mesh</td>
<td>30 = 100%</td>
</tr>
<tr>
<td>Laparoscopy</td>
<td>0 = 0%</td>
</tr>
</tbody>
</table>

The prescribed treatment is open mesh surgery for 100% patients.

**DISCUSSION**

Inguinal hernia is the second most common problem in children after umbilical hernia. From the above data it shows that inguinal hernia has two
types one is mostly present congenitally (indirect hernia) of about 66.66% and other type is acquired (direct hernia) of about 33.33% appeared in children. About 66.66% occurrence of inguinal hernia is on right side and only 33.33% is on left side. History of obstruction or discoloration also observes in 66.66% patients. This obstruction causes history of swelling in 73.33% patients. Type of swelling is reduced in 83.33% patients while permanent type swelling also appears in 16.66% patients. When this obstruction is likely to occurs, Doctor prescribes open mesh surgery to 100% patients for the treatment of hernia.

CONCLUSION

From the results of above data, it is concluded that mostly inguinal hernia occur congenitally in children but sometimes it is acquired in life due to heavy pressure on weak abdominal wall. Mostly inguinal hernia occurs in right side of groin. Hernia may cause no pain in children but sometimes intestinal loop become trapped in that hole of hernia and become incarcerated, painful and obstruction or discoloration takes place and causes swelling in that area that is non reducible and appear as hard mass permanently. Surgery is the only treatment of inguinal hernia management. The open mesh method is used completely for the treatment of this type of hernia but first of all patients are properly examined by the doctor to differentiate between reduced or non reducible type of inguinal hernia then it is treated by open mesh surgery. On the other side there is recurrence of inguinal hernia observed in some patients due to improper treatment by the surgeon or by improper counseling to patient’s respondents such as avoid lifting of heavy weight immediately after surgery. Post-operative infections may appear in some patients but it is overcome by the doctor by giving antibiotic medicines to patients after surgery.

RECOMMENDATIONS

If hernia become incarcerated and blood supply of that loop of intestine stop and cause severe pain, immediate surgery must be performed without any delay.
Parents and caretakers should be counseled on the signs and symptoms of inguinal hernia incarceration because in significant morbidity and mortality is likely to result in some children due to delayed recognition of incarceration. As patients are young children, parents should be guided well enough about the pre-operative and post-operative care and ensure complete patient compliance with the treatment given and awareness of the patient about why and when to come for follow up visits. Patients should be guided about possible post operative complications and rare recurrence of inguinal hernia.

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REFERENCES


