Hernia Of The Umbilical Cord

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Umbilical cord hernia

- Introduction:
  It is a simple failure of complete return of the midgut to the peritoneal cavity which usually occurs around the 10 week.
It is uncommon.

Small defect (less than 2 cm).

Located at the umbilicus with the umbilical cord extending from it.

Covered with a sac.

Contains only the midgut.
Umbilical cord hernia...cont

- These patients might have malrotation, although it is not usually a cause of intestinal obstruction.

Umbilical cord hernia... cont

- Wet umbilical cord
- Clamp & separate cord
- Dryness
Normal Umbilical Cord
Normal Umbilical Cord
How to differentiate?
<table>
<thead>
<tr>
<th>Defect</th>
<th>site</th>
<th>sac</th>
<th>contents</th>
<th>frequency</th>
<th>Associated anomalies</th>
<th>outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omphlocele (lat. Fold)</td>
<td>umbilicus</td>
<td>yes</td>
<td>Liver, intestine, spleen, gonad</td>
<td>common</td>
<td>Chromo. &amp; cardiac</td>
<td>Good (dep. on the associated anomaly)</td>
</tr>
<tr>
<td>Omphlocele (cephalic Fold)</td>
<td>Sup. umbilicus</td>
<td>yes</td>
<td>Liver, intestine</td>
<td>rare</td>
<td>Cardiac, stern al cleft , central tendon diph.</td>
<td>poor</td>
</tr>
<tr>
<td>Omphlocele (caudal Fold)</td>
<td>Inf. umbilicus</td>
<td>yes</td>
<td>intestine</td>
<td>rare</td>
<td>Bladder extrophy, impe rorated anus &amp; episp</td>
<td>fair</td>
</tr>
<tr>
<td>Umbilical cord hernia</td>
<td>umbilicus</td>
<td>yes</td>
<td>intestine</td>
<td>unusual</td>
<td>uncommon</td>
<td>good</td>
</tr>
<tr>
<td>Gastoschisis</td>
<td>Rt. umbilicus</td>
<td>No</td>
<td>intestine</td>
<td>common</td>
<td>Intestinal atresia</td>
<td>good</td>
</tr>
<tr>
<td>Ectopia cordis thoracis</td>
<td>Midline sternum</td>
<td>No</td>
<td>heart</td>
<td>rare</td>
<td>cardiac</td>
<td>poor</td>
</tr>
</tbody>
</table>
Umbilical cord hernia...cont

- Management:
  - Counseling and reassuring the parents
  - Careful examination to determine the following:
    - Diameter (<2cm)
    - Status of the content
      - Reducible
      - Irreducible which might be due to adhesions or membrane.
The type of management depends upon:

- If the base is narrow & there is short protrusion of the contents → Reduction of the contents & Simple ligation of the sac.
Umbilical cord hernia…cont

- If the base is Broad & there is long epithelialized protrusion around the umbilicus
  - Initial reduction, clamping & immediate or later repair with cosmetic umbilicoplasty
If the contents are not reducible or if there is bleeding → → → → → Mandatory surgical intervention.
Umbilical cord hernia...cont

- The contents are easily reduced by holding the sac upwards & gently milking the bowel into the peritoneal cavity.

- The fascia can always be closed primarily & a cosmetic umbilicoplasty is nearly always feasible which might be immediate or late (OR).
Umbilical cord hernia...cont

- Care should be taken as the content of the sac is the midgut with or without
  - Appendix.
  - Patent omphalomesenteric duct.
  - Adhesions between the bowel and the sac as it will be seen in one of our cases.

(David M. sherer .Gynecol obstet Invest 51:66-68,2001)
Umbilical cord hernia...cont

- The umbilical abnormality can be diagnosed with certainty after delivery, but antenatal ultrasonography can be helpful in determining these abnormalities such as:
  - Hernia of the umbilical cord
  - Omphalocele
  - Teratoma of the cord.
Umbilical cord hernia...cont

- This gives a indication for distal clamping of the cord to avoid injury of the bowel until the baby is attended by the pediatric surgeon.
In KAUH 14 cases of umbilical cord hernia seen & treated over the last 10 years (1997-2007).

Retrospective review of antenatal ultrasonography did not indicate the presence of the abnormality.

All of the cases were near term ranging between 34-38 weeks.
Umbilical cord hernia...cont

- 12 of which had reducible content while the other 2 cases presented by irreducibility due to adhesions in one of them and septum that prevent the reduction in the other one which led to hemorrhagic fluid upon trial of the reduction.
8 of the cases were managed by a simple reduction of the contents and ligation of the sac. (short neck, narrow base)
4 of the cases had wide base & long epithelialized protrusion, were managed by repair of the umbilical hernia (Mayo's repair & cosmetic umbilicoplasty)

- 2 immediate.
- 2 late closure.
2 cases needed immediate surgical intervention in the form of Repair & umbilicoplasty due to irreducibility which was due to:
- Adhesions.
- The presence of septum.
Umbilical cord hernia...cont

- Despite of that most of the patients with hernia of the umbilical cord were having malrotation, but this was not an indication to explore any of our patients.

( Grosfeld et al. Pediatric Surgery sixth Edition 1157-1171, 2006)
Conclusion:

- Hernia of the umbilical cord is a rare entity of the abdominal wall defects, but careful attention should be paid in order not to miss it.
- If there is any suspicion of an umbilical cord hernia, the umbilical clamp should be applied distally to avoid injury of the contents.
Umbilical cord hernia...cont

- Force should not be applied in order not to cause any damage to the bowel while reducing the contents, keeping in mind the possible causes of irreducibility.
THANK YOU
SHOWKRAN
Umbilical cord hernia...cont

- Differentiation from other abdominal wall defect should be kept in mind.

  umbilical hernia--- the defect is covered by a normal skin and is rarely present at birth, instead usually becoming apparent in the first weeks or months of life after the cord separation & epithelialization of the umbilical stump.
Bladder Exstrophy Boy
Umbilical cord hernia...cont

- 4 of the cases had wide base & long epithelialized protrusion, were managed by repair of the umbilical hernia (Mayo’s repair & cosmetic umbilicoplasty)
  - 2 immediate
  - 2 late closure.
Umbilical cord hernia...cont

- If the base is narrow & there is short protrusion ----------
  Reduction of the contents & Simple ligation of the sac.
Umbilical cord hernia... cont

- If the base is Broad & there is long epithelialized protrusion ------ Initial reduction, clamping & immediate or later repair with cosmetic umbilicoplasty