Incarcerated Sliding Colonic Maydl’s Hernia-Dealing with This Rare Emergency

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Abstract

Maydl’s hernia is a rare type of incarcerated hernia and at times presents as a tricky situation demanding urgent attention. It has been popularly known as ‘hernia in W’ which typically describes the orientation of the bowel in the hernia sac and its vulnerability to undergo intra-abdominal closed loop strangulation, which may go unnoticed. There is a relative dearth of available literature on Maydl’s hernia. Two cases of incarcerated sliding colonic Maydl’s hernia which presented to the emergency department are described here and various strategies of recognising and dealing with this infrequent crisis are discussed and existing literature reviewed.

KEYWORDS: Maydl’s, hernia, colon, strangulation, sliding
INTRODUCTION

Maydl’s hernia is a rare type of incarcerated inguinal hernia with reported incidence of 0.6 to 1.92% [1-3]. The scarcity of available literature also suggests that Maydl’s hernia is probably rare. Furthermore it has been only briefly described in a few textbooks. It is also identified by names such as ‘hernia in W’ and ‘double loop hernia’. The former name describes the typical anatomical orientation of the bowel loops in the hernia sac, with the central limb of the ‘W’ positioned intra-abdominally and the side limbs outside the abdomen and in the hernial sac. The significance of this type of hernia is the risk of strangulated middle segment going unnoticed at surgery due to a false judgement made by the presence of two viable loops in the hernia sac.

CASE SERIES

CASE-1

A 52 year old male presented to the emergency department with an obstructed left inguinal hernia of 12 hours duration, associated with abdominal pain, progressive distension and vomiting. He was known to have a large left sided inguino-scrotal hernia for about 25 years, which had become irreducible since the past two months. He had refused surgery on many occasions. He had no other comorbidities. Clinical examination revealed a huge left sided tense, tender and irreducible inguinal hernia. The abdomen was distended with tenderness and guarding in the left iliac fossa, along with sluggish bowel sounds. His temperature was normal, heart rate was 120/min and blood pressure was 90/60 mm of Hg. Plain abdominal radiograph was suggestive of mechanical large and small bowel obstruction. Ultrasonography, showed dilated aperistaltic small bowel loops and fluid in the scrotal sac and minimal fluid in the pouch of Douglas. Considering the possibility of strangulation taxis was not attempted. After resuscitation, the patient was taken up for emergency surgical exploration within two hours of admission. Exploration of the hernia revealed a sac with feculent fluid along with the caecum, appendix and two loops of small bowel all of which were gangrenous. The caecum was lying posteriorly forming a part of the sac wall and was found to have perforated. This prompted a formal laparotomy and an additional foot of small bowel which formed the intra abdominal middle loop was found to be gangrenous and perforated. The rest of the small within the abdomen was grossly dilated, congested and oedematous. A limited right hemicolectomy was done and about 3 feet of small bowel resected. Since the small bowel was grossly oedematous it was planned not to do a primary anastomosis. Hence the terminal end of the small bowel was brought out as a stoma and the distal end (ascending colon) was closed with a linear stapler. Herniorrhaphy was also done. The post
operative period was uneventful. The stoma was well functioning and patient was discharged after ten days. Eight weeks later the stoma was taken down and ileocolic anastomosis was done. The patient is on regular follow up and is doing well.

CASE-2

A 45 year old male presented with obstructed right inguinal hernia of four hours duration. He gave history of a hernia since his childhood and refused surgery at several occasions. He had no other co morbidities. Clinical examination revealed a very huge tender and irreducible right inguino-scrotal hernia accompanied with tenderness in the right iliac fossa. The lower abdomen was distended but not rigid. Bowel sounds were hyper peristaltic. The temperature was normal, heart rate was 100/min and blood pressure was 130/90mm of Hg. Abdominal x-ray showed features of mechanical large and small bowel obstruction with majority of small bowel in the scrotal sac. Exploration of the hernia revealed a large sac with caecum as the posterior and lateral wall with 2 loops of small bowel and odourless haemorrhagic fluid. All the loops appeared grossly distended and congested. In spite of dividing the constricting ring the entire small bowel could not be brought out into the sac for inspection. Hence a midline laparotomy was made which showed a grossly congested and oedematous middle loop of small bowel with adhesions to the neck and adjacent bowel. The contents were reduced after releasing the adhesions. All bowel appeared viable and demonstrated peristalsis. The abdomen was closed with difficulty and the hernia repaired. The post operative period was uneventful. The patient was discharged on the seventh day.

DISCUSSION

Karel Maydl, a Bohemian surgeon in 1895 was the first to describe this hernia in which the middle limb became strangulated. Three types of Maydl’s hernia have been described based on their contents as Type 1) only small bowel; Type 2) both small and large bowel and, Type 3) only large bowel. Table 1 gives a list of reported cases of Maydl’s hernia. The term Maydl’s hernia nevertheless seems to describe only the morphological configuration or orientation of the intestinal loops. It does not reflect the aetiology as to whether it is sliding or not. So this configuration can be present in any type of inguinal hernia as long as the hernial orifice permits sufficient length of bowel to pass through it and assume the characteristic formation. As for instance in Bayley’s series, 3 out of 5 Maydl’s contained caecum and small bowel. But she felt that these were not sliding hernias since the caecum was freely mobile and did not form a part of the sac’s wall.
Table 1: Reported cases of Maydl’s hernia

<table>
<thead>
<tr>
<th>No:</th>
<th>Author</th>
<th>Year</th>
<th>No: of cases</th>
<th>Only small bowel (Type1)</th>
<th>Only large &amp; small bowel (Type2)</th>
<th>Only large bowel (Type3)</th>
<th>Bowel Resection needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Frankau[1]</td>
<td>1931</td>
<td>4</td>
<td>nc</td>
<td>nc</td>
<td>nc</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Paul[8]</td>
<td>1944</td>
<td>1</td>
<td>1</td>
<td>nc</td>
<td>nc</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Baley[5]</td>
<td>1970</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Moss et al[7]</td>
<td>1976</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Ganesaratnam.M[6]</td>
<td>1985</td>
<td>7</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Narang et al[4]</td>
<td>1987</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

(Total 24)

(nc = not commented)
The table shows the number of cases associated with each type of Maydl’s hernia and the number of cases that required bowel resection due to strangulation.

Philip reported a similar type of strangulation known as afferent loop strangulation where the bowel contents had caecum and small bowel loops but did not assume a ‘W’ configuration and hence could not be called Maydl’s [3]. Moss et al reported a sliding Maydl’s hernia where the contents were solely large bowel.[7] Ganesaratnam[M], from his series of 7 cases, also reported one case of sliding Maydl’s hernia containing only large bowel.[6] The other cases do not comment on the presence of a sliding component. In both our cases the hernia had caecum, appendix and small bowel. The caecum formed the posterior wall of the sac lying extraperitonealy and was not freely mobile, thus both these were sliding hernias.

It is also interesting to note that in one of our case the hernia was on the left side and contained the caecum with a long mesentery.

It is therefore strongly felt that the occurrence of Maydl’s hernia depends on a multitude of factors. Long standing hernias may predispose to more bowel being dragged into the sac. Adhesions developing over a period of time may predispose to a ‘W’ configuration preventing one segment to herniate while permitting the more mobile loops to herniate around them. A wide hernia orifice may facilitate herniation of more than one loop. Some of these hernias would have started as a sliding hernia with large and small bowel loops as contents. A mobile caecum with a long mesentery can also be considered as a contributing factor. In other words there might be an anatomic predisposition for this occurrence.
Strangulation can occur in any one or all the loops. Strangulation is typically the closed loop type and occurs first in the most vulnerable intra-abdominal segment\cite{8}. One consistent feature noted in all the reported cases was that the intra-abdominal loop was always involved in strangulation. The caecum’s vascularity is such that it has a higher threshold for strangulation when compared to the intra-abdominal small bowel loop \cite{3}. In the present case the caecum became gangrenous and perforated indicating that the bowels had been obstructed for a considerable time.

Although rare, the probability of strangulated Maydl’s hernia should be considered in all patients who present with large, long standing hernias with sudden onset of pain and features of intestinal obstruction or peritonitis, coupled with a tense and tender inguinal hernia. Manual reduction of such hernias should not be attempted. There should be no second thought in exploring these cases even if the hernia has spontaneously reduced as there is a probability of returning a non viable segment and presenting as delayed perforation. All these patients should be adequately resuscitated with intravenous fluids, nasogastric decompression and broad spectrum antibiotics instituted. Prior to surgery the possibility of laparotomy, bowel resection and anastomosis or stoma creation and need for mechanical ventilatory support should be discussed. On exploration if any hernial sac contains suspicious fluid, congested bowel or more than one loop of bowel even though appearing viable, it is imperative that additional and adjacent loops should be inspected thoroughly even if this requires a laparotomy. It is suggested that at least 2 feet of bowel should be brought out into the sac for inspection \cite{5}. These measures are often life saving in both Maydl’s as well as in afferent loop strangulation.

**References**