Small Intestinal Gangrene and Perforation in Retroperitoneum

An Unusual Complication of Abdominal Sling Operation for Uterine Prolapse

Amjad M Shaikh*, Girish D Bakhshi, Taher Shaikh**, Praveen Tungenwar+, Satyajeet Pathrikar+, Rajpal Dilip++, Sayajirao S Sargar+++**

Abstract

Small intestinal gangrene and perforation are not uncommon in surgical practice. However, those occurring as a complication of abdominal sling operation for prolapsed uterus are rare. This poses a diagnostic dilemma when perforation occurs in retroperitoneal sac created due to abdominal sling. Diagnosing such cases is challenging as there is diversity in clinical and radiological signs. We present a case of 35 year old female who presented with subacute intestinal obstruction with previous abdominal sling operation for uterine prolapse. To the best of our knowledge this is the first case of ischaemic perforation of small bowel in retroperitoneum following uterine sling operation.

Introduction

Prolapse is a Latin word meaning “slipping pelvic organ”. Prolapse has remained an issue of major health concern affecting a large population of women in both developing and developed countries. The need for expertise and specialised care for pelvic floor disorders would gradually increase in the ensuing decades. Though pelvic organ prolapse is more common in older women, it is now seen with an increased frequency even in reproductive age group.There is a noticeable and gradual shift towards minimally invasive procedures even for surgeries of prolapse. Conservative surgeries play an active role in young nulliparous women where menstrual and reproductive function is desired.

Various surgeries have been described for prolapse surgery viz; anterior approach by Khanna and the most commonly used posterior approach by Shirodkar. These surgeries rarely give rise to intestinal complications. Literature has revealed intestinal obstruction or adhesions as some of the uncommom complications. We present a case of ischaemic perforation of small bowel which was localised as a complication of Shirodkar sling operation. This posed a challenge in both establishing the diagnosis as well as its management. We discuss the presentation and concerned literature of the same.

*Post MS Registrar; **Asso. Prof.; ***Hon. Asso. Prof; +Lecturer; ++Hon. Asso. Prof; +++Resident; Department of Surgery, Grant Medical College and Sir J.J. Group of Hospitals, Mumbai - 400 008.

Case Report

A 35 year old married female presented with abdominal distension and pain in hypogastrium since 6 days. She had 2 episodes of vomiting in three days with increasing abdominal girth. Bowel movements were in the form of semisolid to liquid stools on alternate days. Patient had persistent fever with no spike greater than 101° F. Her pulse was constantly between 90 and 100 beats /min with normal blood pressure. She had undergone abdominal sling

Fig. 1 : Intraoperative photo showing gangrenous small intestine with perforation with sling in situ.

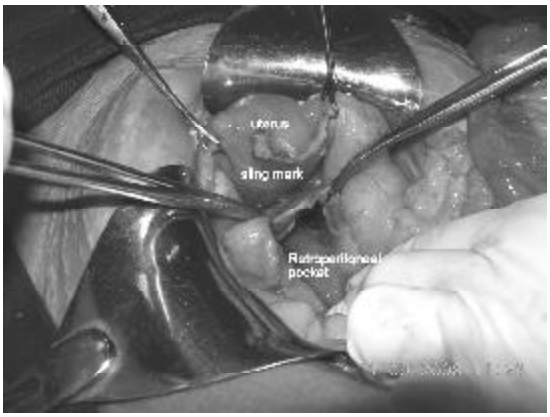

Fig. 2 : Intraoperative photo showing retroperitoneal pocket created by sling behind the pouch of douglas in which ischaemic small bowel perforation occurred.

operation for uterine prolapse 4 years ago, details of which were unavailable but since last one month she again got procidentia.

Obstetric history revealed 3 full term normal deliveries. On examination her abdomen was distended with localized tenderness in hypogastrium. Rest of the abdomen was soft with no organomegaly. On per rectal examination mild tenderness in pouch of douglas was present. On ultrasonography (USG) of abdomen and pelvis, sluggish peristalsis of small intestine with dilated bowel loops was present with minimal free fluid in abdomen and cystic lump in hypogastrium with internal echoes measuring 6 cms x 5 cms. X-ray abdomen showed 5 air-fluid levels with no free gas under diaphragm in favour of small bowel obstruction. Her investigations showed HB: 7.8 gm%, leucocyte count of 12000/cmm, renal and hepatic profiles were normal. On this background clinical picture suggested subacute intestinal obstruction due to probable adhesions of previous sling operation. Patient was given conservative management in the form of correction of fluid and electrolyte balance. However, as she did not respond for 3 days, decision of exploration was taken. Exploratory laparotomy showed that uterine sling had cut through the peritoneum creating space retroperitoneally and mid-ileum was stuck in that region going through sling. The ileum had undergone ischaemic gangrene with perforation resulting in localized pus collection in that pocket (Figs. 1 and 2). Rest of the peritoneal cavity was clean with normal bowel and viscera. Pus was sucked out to prevent spillage into the rest of the peritoneal cavity. Sling was cut and gangrenous bowel was delivered out. Resection of the gangrenous bowel followed by anastomosis of the healthy bowel ends was done. Khanna's anterior sling operation was performed to cure the procidentia. Postoperative recovery was uneventful.

Discussion

Uterovaginal descent is a common problem in Indian women. Various surgeries have been devised to manage these problems. However commonly Shirodkar's uterine sling surgery is done. This involves use of mersilene tape as a sling to fix the uterus to the sacral promontory retroperitoneally.[1] This is a well tolerated surgery with less risk of complications.

Various investigations have been described to diagnose generalized peritonitis like Plain X-ray abdomen showing free gas being the most common to advanced contrast enhanced computed tomography (CECT) scan to confirm the diagnosis. In our case X-ray confirmed it to be intestinal obstruction, however as perforation was in retroperitoneal sac there was no free gas under diaphragm. Moreover, USG was also inconclusive as besides obstruction it showed a cystic lump with internal echoes in the hypogastrium.

This led to a diagnostic dilemma.

As patient did not respond to conservative management, decision of exploratory laparotomy was taken. Ideally sling surgery does not normally give rise to complications like adhesion in lower segment as seen during lower segment caesarean section in Purandare's cervicopexy. In our case laparotomy revealed that uterine sling had created a retroperitoneal sac. The small bowel got entangled in this sac, underwent ischaemia by the pressure of sling. This resulted in gangrene and ischaemic perforation. As this was in retroperitoneal sac, hence signs of generalised peritonitis were not seen in our patient. This is contrary to small bowel perforation as all of them are intraperitoneal perforation resulting in symptoms and signs of perforative peritonitis.[5] Though complications like damage to retcovaginal fascia, recurrence, osteomyelitis and bowel obstruction have been described for this surgery,[4] our case highlights that ischaemic gangrene and perforation with confusing clinical picture could be one of the rarest presentations of its complication.

Conclusion

In conclusion we suggest to keep in mind that small bowel perforation with creation of retroperitoneal sac as one of the rarest complication of uterine sling surgery.

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SALT INTAKE IN INDIVIDUALS WITH METABOLIC SYNDROME

Why is blood pressure in individuals with metabolic syndrome more sensitive to salt intake than that in healthy individuals?

Comparative research into sensitivity to salt intake in different nationalities is still important. Katsuya and colleagues have shown large inter-racial differences in the frequency of salt-sensitive hypertension. If Asian or Chinese groups are more likely to have salt-sensitive hypertension, the need to reduce dietary sodium is more important for clinical and public-health intervention strategies, and is more likely to benefit these target populations.

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