Case Report

A case report of a rare case of uterine fibroid herniating as recurrent incisional hernia

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ABSTRACT

Uterine leiomyoma is the most common estrogen-dependent benign tumor of the uterus. Approximately 5–20% occur in the reproductive age group. It is composed of smooth muscle and fibrous tissue. Asymptomatic myomas present in 50% of cases. The incisional hernia develops in the scar of a surgical incision. We are presenting a case of fibroid uterus with recurrent incisional hernia in a 51-year-old, morbidly obese female patient with swelling over the midline of the abdomen for 3 years. The patient was a second para patient with a history of one cesarean delivery 24 years ago followed by one normal delivery 18 years ago. The patient has a history of incisional hernia meshplasty 12 years ago. She was subjected to ultrasound and magnetic resonance imaging abdomen with pelvis which confirmed fibroid uterus herniating as a recurrent incisional hernia. Management of the case is discussed.

Key words: Prosthetic mesh repair, Recurrent incisional hernia, Uterine fibroid

Uterine fibroids are the most common benign tumor of the uterus. The cause of the leiomyoma is unknown; several studies have suggested that each leiomyoma arises from a single neoplastic cell within the smooth muscle of the myometrium. There appears to be an increased familial incidence and more common in women who are obese. Fibroids commonly arise from the body of the uterus (intramural or interstitial in 75% of cases, submucous in 15% of cases, and subserous in 10% of cases) and cervix [1].

Incisional hernia usually develops in the scar of a surgical incision. The incidence of low midline incisions following gynecological operations is 0.5–1%, the incidence increases to 10% following wound infection [1]. The incidence of recurrent incisional hernia after repairs depends on the type of repair, with an incidence of 50% after anatomical repairs and 10% after prosthetic mesh repairs [2]. Predisposing factors are age, obesity, and wound infection; incisions more than 18 cm. Common contents are omentum, transverse colon, loops of the small bowel, and stomach. The occurrence of uterine fibroid as content of recurrent incisional hernia is rare.

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CASE REPORT

A 51-year-old, morbidly obese female patient came to the surgical outpatient department with a complaint of swelling over the midline of the abdomen for 3 years. The patient was the second para with a history of one cesarean delivery 24 years ago followed by one normal delivery 18 years ago. The patient has a history of incisional hernia meshplasty 12 years ago. The patient was a known case of diabetes mellitus (DM) and hypertension, on treatment for the same.

On examination, the patient was conscious, oriented, and vitally stable. On per abdominal examination, a scar of previous cesarean section and incisional hernia meshplasty was noted along with striae gravidarum. A single swelling with visible cough impulse was seen in the periumbilical region extending approximately 15 cm above the umbilicus, 10 cm below the umbilicus, 10 cm to the left of the umbilicus, and 5 cm to the right of the umbilicus which was reducible spontaneously. On palpation of hernial site, a single non-warm non-tender swelling, which was firm in consistency with ill-defined margins in the periumbilical region, was noted, confirming the inspection findings. Clinically, the content of the hernia could not be judged. On per vaginal examination, the uterus direction was

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difficult to assess due to obesity and the exact size could not be made out.

On admission, all routine investigations were carried out and found to be normal. Hba1c was 7.7 (normal 5.6–6.4). Ultrasonography was undertaken which was suggestive of a grossly enlarged uterus extending up to the umbilical region and herniating through a 42 mm defect in the left paraumbilical region. Another 14 mm defect was noted at the umbilicus with herniating fat. Contrast-enhanced computed tomography/magnetic resonance imaging (MRI) pelvis was advised. MRI pelvis was done which was suggestive of large (9 × 18 × 15 cm) subserosal fibroid arising from the fundal anterior wall of the uterus and part of fibroid and fat herniating through an 8 x 3.8 cm sized defect in the umbilical region (Fig. 1). Pap smear and endometrial biopsy were sent showing no abnormalities. After routine pre-operative workup and fitness and proper consent, the patient was taken for surgery.

Exploratory laparotomy with pan hysterectomy, ileoileal resection, and anastomosis with previous mesh removal with recurrent incisional hernia meshplasty (retrorectal plane) was done. A vertical midline incision extending from 5 cm above the umbilicus up to pubic symphysis was made and the abdominal wall was opened layer wise up to the peritoneum. Multiple defects were appreciated in the peritoneum, one at the umbilicus, one in the epigastric region, and one in the left paramedical region just below the umbilicus. Uterine fibroid arising from the fundus of the uterus was seen, hysterectomy with bilateral salpingo-oophorectomy was done and the specimen was sent for histopathological examination (Fig. 2). The histopathological examination confirmed bilateral Fallopian tubes and bilateral ovaries showing normal histology. The uterus with the subserosal fibroid (leiomyoma) was also confirmed histopathologically.

The previous mesh was found in intraperitoneal space and was densely adherent to the ileum (20 cm proximal to the ileocecal junction) (Fig. 3). It was removed and the segment of the ileum which was adherent to the mesh was excised and ileoileal resection and anastomosis were done in the double layer. A new prosthetic mesh was placed in the retrorectus plane. One drain was placed in the pelvis and two negative drains were placed in the retrorectal plane just above the mesh. Adequate hemostasis was achieved, the warm saline wash was given, and the closure was done.

Postoperatively, the patient was shifted to the surgical intensive care unit with Ryle's tube and urinary catheter *in situ*. The patient was clinically and vitally stable, random blood sugar readings were within normal limits and the patient was put on 6 h insulin sliding scale. The patient was shifted to the general ward on a post-operative day (POD) 3. Ryle's tube and Foley catheter were removed on POD 4 and oral feeding was started. On POD 6, the patient had one episode of bilious vomiting for which X-ray abdomen and USG whole abdomen were done. X-ray was suggestive of a few air-fluid levels with dilated bowel loops. The patient was kept nil by mouth (NBM) and enema was given after which the patient passed stools once. Daily morning X-ray abdomen was carried out for 3 days and air-fluid levels were resolved. The patient was again started on oral feeding which she tolerated satisfactorily. On POD 7, a pelvic drain was removed and the patient was mobilized, probiotics were started. On POD 8, a negative drain was removed. On POD 10, potassium correction was started orally after serum potassium was found to be low (2.9 mmol/L).

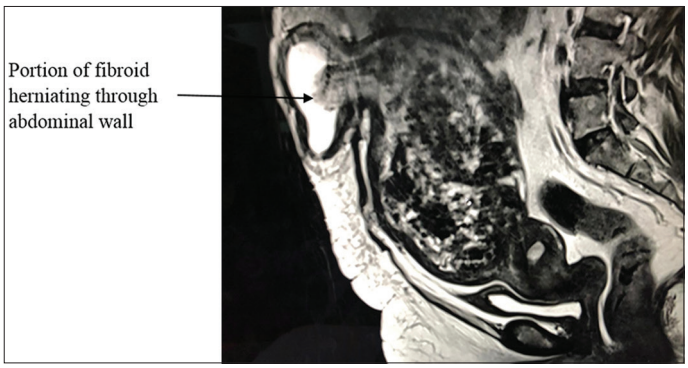

Figure 1: Magnetic resonance imaging pelvis suggesting subserosal fibroid herniating through a defect in the umbilical region

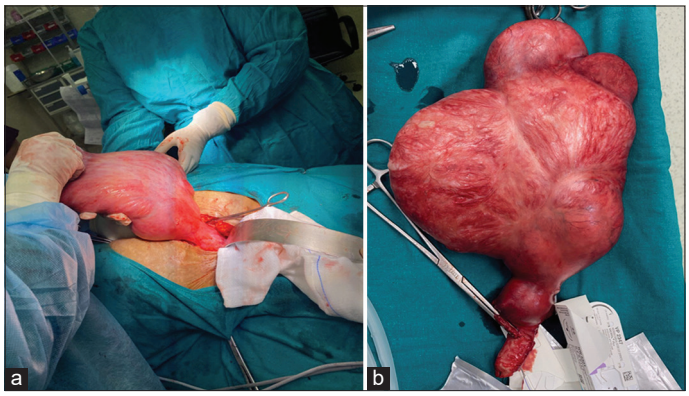

Figure 2: (a) Peroperative uterus with fibroid; (b) specimen showing the uterus with fibroid

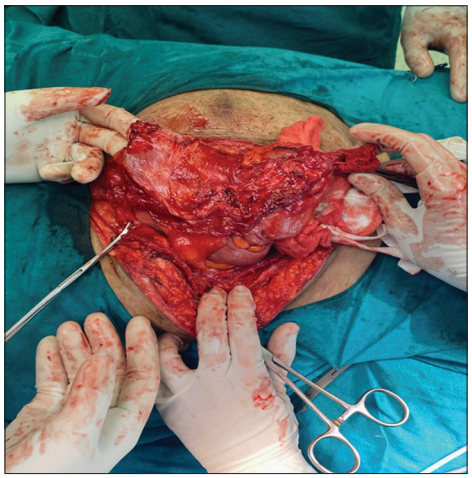

Figure 3: Previous prosthetic mesh adherent to the small bowel

The patient was discharged on POD 11 and regular follow-up was done which was uneventful. Currently, the patient is living a normal healthy life without any complaint.

DISCUSSION

Most of the leiomyomas are asymptomatic; some fibroids cause pressure symptoms, infertility, and menorrhagia [3]. The rapid

growth of fibroids suggests its tendency for malignancy [4] and these should be removed as early as possible when they cause symptoms. Gonadotropin-releasing hormone agonists suggested in asymptomatic premenopausal women for shrinkage of myoma. If the uterus is more than 12 weeks size, regardless of symptoms in addition to the location, surgical removal is mandatory [5]. Hysterectomy is a most effective treatment for leiomyoma, in the case of symptomatic fibroids and it offers a high rate of patient satisfaction. Other management options such as myomectomy, uterine artery embolization, magnetic resonance-guided focused ultrasound (MRgFUS) [6], and laparoscopic myolysis have a role in the treatment of fibroids in selected women. Myomectomy should be considered in young women with symptomatic fibroids, where the childbearing function needs to be retained.

Predisposing factors for incisional hernia development are wound infection, obesity, age, DM, prolonged coughing due to smoking, or long-standing lung infections, and incisions more than 18 cm [7]. In general, midline ventral abdominal wall hernias contain adipose tissue, small bowel loops, part of the transverse colon, or omentum, as these organs are more freely movable in the peritoneal cavity. In the current surgical literature, several cases of unusual contents found incarcerated in the hernia sac have been reported. Most of the incisional hernias (66%) develop within 5 years, remaining (33%) develop within 5–10 years [8]. Incidence of recurrent incisional hernia after repairs depends on the type of repair, anatomical repairs, or prosthetic mesh repairs.

The occurrence of uterine fibroid as content of recurrent incisional hernia is rare. The causative factor, in this case, is obesity as a predisposing factor. The operative method used in this case was synthetic non-absorbable Prolene mesh closure. Other methods are shoelace repair and laparoscopic mesh closure. The smallest incisional hernias can be repaired with mesh, and the surgeon has various options for placing the mesh-like onlay technique, inlay, overlay, underlay, retrorectal placement, pre-peritoneal placement, or intraperitoneal placement.

The retrorectus space is bordered laterally by the linea semilunaris. In very large hernias or in those patients with atrophic narrowed rectus muscles, this might prevent adequate mesh overlap. This is done under the posterior component separation technique for incisional hernia repair. Another option for the repair of complex or large ventral defects is the anterior component separation technique. This involves separating the lateral muscle layers of the abdominal wall to allow their advancement.

The endoscopic component separation technique can also be used for large ventral hernia repair. This is performed by a direct cut-down through a 1 cm incision off the tip of the 11th rib overlying the external oblique muscle. The external oblique is split in the line of its fibers, and a standard bilateral inguinal hernia balloon dissector is placed in between the external and internal oblique muscles, toward the pubis [9]. One such case was reported by Indira and Ratna where a leiomyoma was herniating through a mini-lap incision where abdominal distension and swelling in the abdomen were mistaken for fat in view of her obesity [1].

As reported by Fehintola *et al*. [10], the mechanism of incarceration of fibroids in a non-pregnant uterus is difficult to explain and the probable pathophysiological scenario is that the huge leiomyoma can increase the intra-abdominal pressure and can cause incarceration of abdominal viscera into the hernia. Before embarking on surgical exploration, this possibility should be highlighted to the patient and consider hysterectomy and salpingo-oophorectomy when consenting patients are prudent [11].

CONCLUSION

Rapidly growing anterior wall fibroid in an acutely anteverted uterus may herniate and lead to a recurrence of incisional hernia, especially in patients with obesity and possibly weak anterior abdominal wall. Prosthetic mesh in the repair of incisional hernia defect should preferably be placed in a pre-peritoneal or retrorectal plane instead of an intraperitoneal plane due to the latter being associated with high chances of adhesions between mesh and bowel and subsequent episodes of intestinal obstruction. Every woman should have periodic health checkups and the message should be passed to the community level.

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