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CONCURRENT UMBILICAL HERNIA IN WOMEN WITH GIANT UTERINE FIBROIDS: A CASE SERIES FROM WESTERN INDIA

Internal Medicine

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ABSTRACT

Background: Uterine fibroids are common benign tumors in women of reproductive age, but giant fibroids may rarely predispose to abdominal wall weakness and result in umbilical hernia. The overlap in clinical presentation often complicates diagnosis. **Objective:** To describe the clinical, radiological, and surgical characteristics of women presenting with giant fibroids associated with umbilical hernia. **Methods:** A prospective case series was conducted at Vedantaa Institute of Medical Sciences, Palghar, Maharashtra, India, between January 2023 and June 2025. Fifteen women with fibroids ≥10 cm and coexisting umbilical hernia were included. Clinical features, laboratory parameters, imaging findings, surgical interventions, and outcomes were systematically analyzed. **Results:** The mean age of patients was 44.6 years, with multiparity being predominant (80%). The mean fibroid size was 11.8 cm, most commonly in the posterior wall. The mean umbilical defect size was 3.8 cm, with hernia sacs containing omentum (60%) or omentum with bowel loops (40%). All patients underwent total abdominal hysterectomy with primary hernia repair. Postoperative recovery was uneventful in 93% of cases, with only one wound seroma reported. No hernia recurrences were observed during follow-up. **Conclusion:** Giant uterine fibroids can present with secondary umbilical hernia, an uncommon but important sequelae. Comprehensive imaging aids diagnosis, while simultaneous hysterectomy and hernia repair is a safe and effective treatment option.

KEYWORDS

uterine fibroid, umbilical hernia, abdominal wall defect, hysterectomy

BACKGROUND

Uterine fibroids, or leiomyomas, are the most common benign tumors of the female reproductive tract, with a reported lifetime incidence of up to 70–80% in women of reproductive age.[1] Although many fibroids remain asymptomatic, they can present with abnormal uterine bleeding, pelvic pain, infertility, or bulk-related symptoms depending on their size and location.[1] In rare instances, giant fibroids exceeding 10 cm in diameter may lead to significant abdominal distension and secondary complications due to their mass effect.[2]

Umbilical hernia in adults is generally associated with conditions that increase intra-abdominal pressure, such as obesity, ascites, or multiple pregnancies.[3] However, the occurrence of umbilical hernia as a sequela of large uterine fibroids is rarely documented. The constant pressure exerted by a growing fibroid mass may weaken the abdominal wall, predisposing to herniation. Such presentations can mimic primary hernia or other abdominal masses, leading to diagnostic uncertainty.[4]

Accurate diagnosis requires thorough clinical evaluation supplemented by imaging modalities, with ultrasonography and computed tomography playing a key role in differentiating fibroid-related hernias from primary abdominal wall defects.[5] The definitive treatment approach is surgical management addressing fibroid removal and hernia repair.[6] Reports of such concurrent presentations are limited, particularly from the Indian subcontinent. Therefore, it is of interest to describe our experience with 15 patients presenting with giant uterine fibroids complicated by umbilical hernia, managed at a tertiary care center in western India.

MATERIALS AND METHODS

Study Design And Setting

This prospective observational case series was conducted at the Department of Obstetrics and Gynecology, Vedantaa Institute of Medical Sciences, Palghar, Maharashtra, India. After obtaining institutional ethics committee approval, the study was carried out over two years, from January 2023 to June 2025.

Study Population And Sample Size

A total of 15 women who presented with giant uterine fibroids associated with umbilical hernia were included in the study. Patients were recruited consecutively from the gynecology outpatient department and surgical referrals during the study period. The diagnosis of fibroid uterus with concurrent umbilical hernia was confirmed through clinical examination and imaging modalities.

Inclusion And Exclusion Criteria

Women aged between 30 and 55 years presenting with fibroids ≥10 cm in diameter, confirmed on ultrasonography or computed tomography, and having radiologically or clinically demonstrable umbilical hernia were included. Patients with prior abdominal surgery, congenital abdominal wall hernias, or coexisting gynecological malignancies were excluded from the study to avoid confounding factors.

Data Collection

Demographic and clinical details were documented, including age, parity, body mass index (BMI), presenting complaints, duration of symptoms, and medical history. Laboratory investigations included complete blood count, liver function, renal function tests, and lipid profiles. Imaging studies were performed for all patients, with ultrasonography as the first-line modality to assess fibroid characteristics and hernia defect size. In selected cases, contrast-enhanced computed tomography (CECT) of the abdomen and pelvis was carried out to better delineate anatomical details.

Surgical Procedure

All patients underwent exploratory laparotomy under general anesthesia. The size, location, and number of fibroids were assessed intraoperatively. A total abdominal hysterectomy was performed in all cases, as the majority of women had completed their families and presented with symptomatic fibroids. The umbilical hernia defect was repaired simultaneously in the same sitting using primary suturing with non-absorbable material. The choice of repair was based on defect size, tissue condition, and surgeon preference.

Postoperative Care and Follow-up

Postoperatively, patients were monitored for vital stability, wound healing, and immediate complications. Analgesics and prophylactic antibiotics were administered as per institutional protocol. Patients were mobilized early to prevent thromboembolic events. Follow-up assessments were conducted at two weeks, six weeks, and three months to evaluate wound healing, recurrence of hernia, and overall recovery.

Statistical Analysis

Data were entered into Microsoft Excel and analyzed using descriptive

statistics. Continuous variables such as age, BMI, fibroid size, and hernia defect size were expressed as mean ± standard deviation, while categorical variables such as parity, symptom distribution, and complication rates were presented as percentages.

RESULTS

A total of 15 patients with giant uterine fibroids and associated umbilical hernia were studied. The mean age was 44.6 ± 5.8 years, and most were multiparous. The average fibroid size was 11.8 cm, with posterior wall location being the most common. Umbilical defect size averaged 3.8 cm. All underwent total abdominal hysterectomy with primary umbilical hernia repair, and only one patient developed a minor postoperative complication.

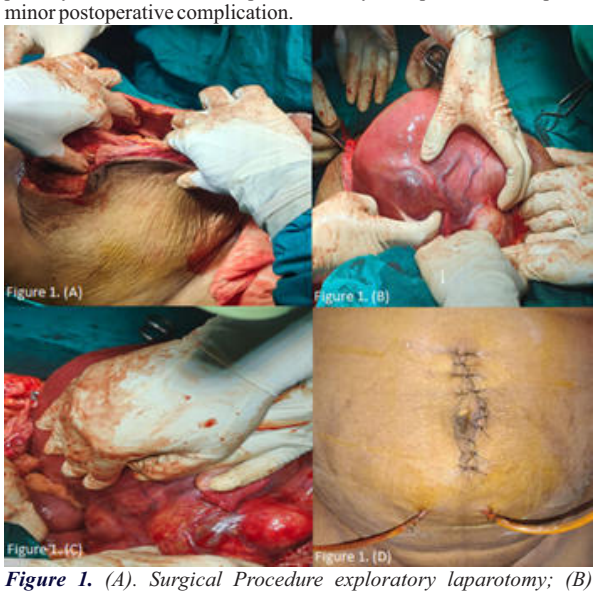

Figure 1. *(A). Surgical Procedure exploratory laparotomy; (B) Showing of giant uterine fibroid; (C) Umbilical hernia repair; (D) Skin closure using ethylene 2.0*

Table 1: Demographic Profile Of Patients

Parameter	Category	Patients (n=15)
Age group (years)	36–40	4 (26.7%)
	41–45	6 (40.0%)
	46–52	5 (33.3%)
Parity	Nulliparous	3 (20.0%)
	Multiparous	12 (80.0%)
Residence	Rural	10 (66.7%)
	Urban	5 (33.3%)
BMI (kg/m²)	Mean ± SD	26.2 ± 3.5

Table 2: Clinical Presentation And Laboratory Findings

Parameter	Patients (n=15)
Abdominal swelling	15 (100.0%)
Pain / discomfort	9 (60.0%)
Positive cough impulse	15 (100.0%)
Hemoglobin (g/dL)	10.8 ± 1.6
Elevated bilirubin (>2 mg/dL)	3 (20.0%)
Low albumin (<3.5 g/dL)	5 (33.3%)
Low HDL (<40 mg/dL)	6 (40.0%)

Table 3: Imaging Findings

Imaging Feature	Category / Finding	Patients (n=15)
Fibroid size (cm)	Mean ± SD	11.8 ± 2.9
Fibroid location	Posterior wall	6 (40.0%)
	Anterior wall	5 (33.3%)
	Fundal	4 (26.7%)
Umbilical defect size	Mean ± SD (cm)	3.8 ± 1.2
Hernia contents	Omentum only	9 (60.0%)
	Omentum + bowel loops	6 (40.0%)

Table 4: Surgical And Postoperative Outcomes

Parameter	Patients (n=15)
Surgical procedure	TAH + hernia repair: 15 (100.0%)
Type of hernia repair	Primary suture: 15 (100.0%)
Operative time (minutes)	124 ± 22
Blood loss (mL)	430 ± 95
Complications	Wound seroma: 1 (6.7%)
Recurrence	0 (0.0%)
Hospital stays (days)	5.6 ± 1.4

DISCUSSION

Uterine fibroids are among the most common benign gynecological tumors, affecting nearly 70–80% of women during their reproductive years.[1] While they typically present with menstrual abnormalities, pain, or infertility, giant fibroids can lead to pressure symptoms and abdominal distension.[1] Rarely, as in the present series, the increased intra-abdominal pressure from large fibroids may predispose patients to abdominal wall weakness, resulting in umbilical hernia formation.[4] This unusual association can complicate diagnosis, as abdominal swelling and hernia symptoms may overlap, highlighting the importance of careful evaluation.

Imaging plays a crucial role in distinguishing fibroid-related abdominal masses from primary hernias. In our series, ultrasonography was performed in all cases, and CT was used selectively to delineate hernia contents. Previous studies have emphasized the value of cross-sectional imaging in complex or atypical cases.[7] Notably, 40% of our patients had bowel loops within the hernia sac, posing a potential risk of obstruction or strangulation. These findings underscore the necessity of timely surgical intervention when fibroids and hernias coexist.

Surgical management combining hysterectomy and hernia repair in a single procedure was successful in all patients in our study. Similar outcomes have been reported, suggesting that simultaneous surgery reduces morbidity and avoids the risks of staged interventions.[8] Primary suture repair was chosen for all cases, consistent with evidence that this method is suitable for small to moderate hernia defects.[9] Only one patient developed a minor postoperative complication; no recurrences were observed during follow-up. Thus, our findings reinforce that concurrent managing fibroids and umbilical hernia is safe and effective when performed in appropriate candidates.

CONCLUSION

Giant uterine fibroids can rarely present with umbilical hernia due to raised intra-abdominal pressure. Careful imaging aids diagnosis, and simultaneous hysterectomy with hernia repair is a safe and effective treatment, offering good outcomes with minimal complications.

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