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PARASITIC LEIOMYOMA DERIVING BLOOD SUPPLY FROM THE OMENTUM: A SURGICAL SURPRISE

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ABSTRACT Parasitic leiomyoma, classified as Type 8 under the FIGO Leiomyoma Classification System, is an exceptionally rare variant of uterine leiomyoma that lacks myometrial attachment and derives its blood supply from adjacent structures such as the omentum, mesentery, or pelvic vessels. We report the case of a 46-year-old parous woman with no history of prior myomectomy or laparoscopic morcellation, who presented with menorrhagia and pressure symptoms. Intraoperative findings revealed a large 11 × 11 × 9 cm omentum-dependent parasitic leiomyoma, a diagnosis confirmed on histopathology. The surgical management entailed meticulous ligation of the omental vascular pedicle, excision of the parasitic mass, and total abdominal hysterectomy with bilateral salpingectomy. This case underscores the importance of considering parasitic leiomyoma in the differential diagnosis of an abdominal mass, particularly in patients with a prior history of open abdominal surgery, and highlights the educational and diagnostic challenges this rare entity presents.

KEYWORDS : Parasitic Leiomyoma; Wandering Fibroid; Omentum; Uterine Leiomyoma; FIGO Type 8; Menorrhagia

INTRODUCTION

Uterine leiomyoma is the most common benign pelvic tumour in women of reproductive age, arising from smooth muscle cell rests within the myometrium. Based on their anatomical location, leiomyomas are broadly classified as intramural (approximately 75%), subserosal (15%), and submucosal (5%). The FIGO Leiomyoma Classification System provides a more granular framework, categorising fibroids from Type 0 (pedunculated intracavitary) through Type 8, the latter encompassing cervical, parasitic, and other atypical locations, with an estimated incidence of 1–2%.

Parasitic or wandering leiomyoma is a rare subtype, classified as FIGO Type 8, defined by complete or partial detachment from the uterus with no residual myometrial involvement. It maintains viability by deriving a neo-vascular blood supply from neighbouring structures, most commonly the greater omentum, but also the mesentery, common iliac artery, or inferior mesenteric artery. The reported incidence is approximately 0.9%, with a mean age of presentation of 40 years (range 18–79 years).

The aetiology of parasitic fibroids is typically linked to prior laparoscopic myomectomy or hysterectomy, particularly when power morcellation is employed, with micro-fragments of myoma tissue retaining angiogenic potential and implanting on peritoneal surfaces. However, spontaneous parasitic leiomyoma in the absence of any prior uterine surgery has also been documented, albeit rarely. With only approximately 10 cases reported from India in the contemporary medical literature, this entity remains poorly characterised in the Indian clinical context. We report an unusual case of a large omentum-dependent parasitic leiomyoma in a patient with prior open abdominal surgery but no history of myomectomy, presenting as a diagnostic and surgical challenge.

Case History

A 46-year-old woman, para 2 living 2, presented to the outpatient department with a six-month history of excessive menstrual bleeding with passage of clots and increased frequency of micturition. She denied any history of intermenstrual bleeding, postcoital bleeding, mass per abdomen, dysuria, burning micturition, or constipation. Her menstrual cycles had otherwise been regular prior to the onset of current symptoms. She had no significant gynaecological or medical history.

Of note, the patient had undergone open cholecystectomy, appendicectomy, and tubectomy in a single operative setting (laparotomy) in the past. She had never undergone myomectomy or any laparoscopic uterine procedure.

On general examination, she was moderately built and nourished, with mild pallor. Per-abdominal examination revealed a uterus of approximately 14 weeks' size, along with a well-healed 7 cm vertical midline scar, with a separate 1 cm scar situated 1 cm from the umbilicus in the right lumbar region from prior surgery. Per-vaginal examination confirmed a 14–16 weeks' size uterus; the fornices were free and non-tender, and there was no adnexal mass palpable.

Pre-operative Investigations

Laboratory investigations were performed as summarised in Table 1.

Table 1: Pre-operative Laboratory Investigations

Investigation	Result
Haemoglobin	10.8 g/dL *
Total Leucocyte Count	7,100 /µL
Platelet Count	1.10 Lakhs /µL
TSH	5.15 mIU/mL *
Fasting Blood Sugar	80 mg/dL
Post-Prandial Blood Sugar	98 mg/dL
Urine Routine Examination	Normal
Pap Smear	Negative for intraepithelial lesion
Endometrial Biopsy	Secretory phase endometrium

* Values outside normal reference range; mIU = milli-international units

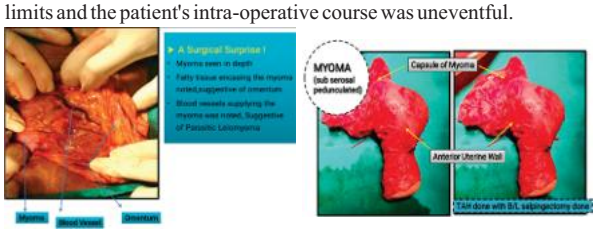
Ultrasonography of the abdomen and pelvis revealed an enlarged uterus with multiple leiomyomas. Notably, a large heterogeneous mass was identified in the peritoneal cavity, appearing separate from the uterus and in close proximity to the greater omentum, raising the possibility of an extra-uterine or parasitic fibroid. The exact vascular pedicle could not be delineated on ultrasound.

Intra-operative Findings

The patient was planned for total abdominal hysterectomy given her completed family, multiple fibroids, and symptoms of menorrhagia with pressure effects. Following a standard midline infra-umbilical incision and entry into the peritoneal cavity, an intra-operative surgical surprise was encountered: a large, well-encapsulated mass measuring 11 × 11 × 9 cm was found lying free in the peritoneal cavity, draped with and encased within the greater omentum. Dense omental adhesions surrounded the mass, with prominent blood vessels arising from the omentum and converging upon the capsule of the myoma, forming its sole vascular supply. Critically, there was no myometrial attachment or uterine pedicle identified, confirming the diagnosis of a parasitic leiomyoma.

The omental vascular pedicle was carefully dissected, ligated, and divided. The parasitic mass was excised in its entirety. On cut section, the mass demonstrated the characteristic whorled white appearance of a leiomyoma, with areas of mucoid degeneration. Additionally, a subserosal pedunculated leiomyoma was identified on the anterior wall of the uterus. Total abdominal hysterectomy with bilateral

salpingectomy was subsequently performed without further intra-operative complications. Estimated blood loss was within acceptable limits and the patient's intra-operative course was uneventful.



Histopathology

Histopathological examination of the excised parasitic mass confirmed the diagnosis of leiomyoma. Microscopy revealed a whorled pattern of smooth muscle bundles separated by well-vascularised connective tissue stroma. The smooth muscle cells were elongated with eosinophilic, occasionally fibrillar cytoplasm and distinct cell membranes. There was no evidence of cytological atypia, coagulative tumour cell necrosis, or increased mitotic activity to suggest leiomyosarcoma. The hysterectomy specimen confirmed the subserosal pedunculated leiomyoma on the anterior uterine wall. The post-operative period was uneventful, and the patient was discharged in stable condition.

DISCUSSION

Parasitic leiomyoma is a rare and diagnostically challenging variant of uterine leiomyoma that has detached, either partially or completely, from the myometrium and acquired a neo-vascular supply from adjacent peritoneal structures. Under the FIGO Leiomyoma Classification System, it is categorised as Type 8, along with cervical fibroids, reflecting its atypical anatomical location. Its reported incidence is approximately 0.9%, with fewer than ten cases documented in the Indian literature, making the present case a noteworthy contribution to this body of evidence.

The clinical presentation of parasitic leiomyoma is often non-specific. Abdominal pain is the most commonly reported symptom, followed by dysmenorrhoea, infertility, and pressure symptoms. In the present case, the patient presented with menorrhagia and urinary frequency, symptoms attributable to the concurrent uterine fibroids rather than the parasitic mass itself. The absence of pain or a palpable abdominal mass made pre-operative suspicion for a parasitic fibroid low, underscoring the diagnostic challenge of this entity.

The pathogenesis of parasitic fibroids is most frequently attributed to prior laparoscopic uterine surgery, especially power morcellation. Micro-fragments of myoma tissue dispersed during morcellation retain their angiogenic potential, being oestrogen-dependent, and may implant on peritoneal surfaces to develop autonomous blood supply. Paul et al. described a 23-year-old woman who presented two years after laparoscopic myomectomy with an electrochemical morcellator; laparoscopy revealed multiple parasitic fibroids presumed to represent implanted morcellation fragments.[4]

Similarly, Felix et al. reported a 47-year-old woman who presented six years after laparoscopic myomectomy with morcellation, with a parasitic fibroid (7 × 5 × 3 cm) attached to the subcutaneous tissue at the laparoscopic port site with no vascular attachment, diagnosed on MRI and managed by laparotomy.[5]

However, parasitic fibroids can also develop spontaneously in the absence of prior uterine surgery, as in the present case. The likely mechanism involves spontaneous detachment of a subserosal pedunculated fibroid, which subsequently adheres to an adjacent structure — in this instance, the omentum — and establishes a secondary vascular supply while the original uterine pedicle involutes. The prior open abdominal surgery in our patient may have created adhesions that facilitated this process, although a definitive causal link cannot be established.

The case reported by Salih et al. bears a similar clinical profile: a 46-year-old woman with vague symptoms of abdominal heaviness and swelling, no history of myomectomy, and a 9 × 7 cm epigastric mass diagnosed on ultrasonography, which on complete surgical resection proved to be a parasitic leiomyoma on histopathology.[1]

Elagamy et al. described a case with close similarity to ours, where laparotomy revealed a parasitic leiomyoma and resection of the mass with omentectomy was performed. Osegi et al. reported an even larger mass (22 × 16 × 25 cm, extending to the xiphisternum) in a postmenopausal woman, managed by surgical resection — highlighting that parasitic leiomyomas can attain remarkably large dimensions before presentation.[2,3]

Definitive diagnosis of parasitic leiomyoma requires MRI, which best delineates the mass, its vascular pedicle, and its relationship to the uterus and adjacent structures. Ultrasonography, while widely available, may not reliably distinguish a parasitic fibroid from other abdominal masses. In the present case, the intra-operative discovery of the omentum-dependent mass underscores that even with modern imaging, the diagnosis may be established only at surgery.

Management of parasitic leiomyoma is surgical, comprising excision via laparotomy or laparoscopy. Rare complications following laparoscopic uterine procedures include uteroperitoneal fistula, chylous ascites, leiomyomatosis peritonealis disseminata, subcutaneous myomas, and parasitic myomas. This case is educationally significant for several reasons: it demonstrates that parasitic leiomyoma can occur without prior laparoscopic surgery, that omental blood supply may sustain a very large lesion, and that intra-operative vigilance is essential when an abdominal mass is encountered in a patient with a fibroid uterus.

CONCLUSION

Parasitic leiomyoma is a rare but surgically important entity that can arise even in the absence of prior laparoscopic uterine surgery. It should be included in the differential diagnosis of any abdominal or pelvic mass in a woman of reproductive or perimenopausal age. MRI is the imaging modality of choice for pre-operative characterisation. Surgical excision remains the definitive treatment. This case reinforces the need for thorough intra-operative exploration and meticulous surgical technique, particularly in patients with prior abdominal surgery and a known fibroid uterus. Reporting such cases enriches the limited literature on parasitic leiomyoma and contributes to improved clinician awareness of this diagnostic and surgical surprise.

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