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General Surgery

A RARE CASE OF PRIMARY PERITONEAL LEIOMYOMA TREATED SUCCESSFULLY BY LAPAROSCOPIC SURGERY

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ABSTRACT **Introduction-**A leiomyoma is a benign smooth muscle tumour that can occur in any organ but most commonly in the female genitourinary tract. Extrauterine leiomyomas are rare. Some variants of peritoneal leiomyomas arise following previous uterine surgeries. The occurrence of primary peritoneal leiomyoma without any prior history of surgery is very rare. A case of sole extrauterine, peritoneal leiomyoma, presenting with lower abdominal pain and treated successfully by laparoscopic resection is reported. Case-A 46 year old female, perimenopausal, para2 presented with diffuse, persistent pain in lower abdomen and distension on and off since 2-3 years. Per abdomen examination revealed a firm lump 12x10 cm palpable in the umbilical region, hypogastrium, left lumbar region and left iliac fossa. Radiological investigations revealed a solid mass arising from parietal peritoneum in the supraumbilical region in the left paramedian location. Guided biopsy done was suggestive of a low grade spindle cell neoplasm. Patient underwent explorative laparoscopy and the tumour was located in the midline preperitoneally, approximately 2 cm from the urinary bladder. The tumour was successfully excised laparoscopically. On follow up, histopathology confirmed the diagnosis of peritoneal leiomyoma without any malignancy. **Conclusion-**Extrauterine Leiomyomas possess a great diagnostic challenge. Due to their higher propensity for recurrence and rare malignant transformation a close follow-up is required. Laparoscopic removal of such tumours is a viable minimally invasive option.

KEYWORDS : leiomyoma, peritoneal.

Introduction

A leiomyoma is a benign smooth muscle tumour that can occur in any organ but most commonly in the female genitourinary tract. Extrauterine leiomyomas are rare and cause diagnostic dilemmas (1,3). Some variants of peritoneal leiomyomas arise following previous open or laparoscopic uterine surgeries. The occurrence of primary peritoneal leiomyoma without any prior history of surgery is very rare. A case of sole extrauterine, peritoneal leiomyoma, presenting with lower abdominal pain and abdominal discomfort and treated successfully by laparoscopic resection is reported.

Case Report

A 46 year old female, perimenopausal, para2 was admitted to our department with diffuse, persistent pain in lower abdomen and distension on and off since 2-3 years. There was no history of vomiting or any bowel bladder disturbance. There was no significant past history other than a seizure disorder for which medication was stopped 10 years back. No previous surgery and no significant family history. There were no menstrual complaints and patient had never taken any contraceptive pills.

General examination was unremarkable. Per abdomen examination revealed a firm lump 12x10 cm palpable in the umbilical region, hypogastrium, left lumbar region and left iliac fossa which was non tender.

USG of abdomen and pelvis revealed a well-defined heterogenous lesion measuring 3.7x9.4x7.1cm in left adnexa showing peripheral vascularity and seen separately from the ovary. CT scan revealed a solid mass measuring 5.5x8.8x6.4cm (APxTRxSI) in size arising from parietal peritoneum in the supraumbilical region in the left paramedian location. It appeared hypodense on plain scan with few areas of enhancement within. The uterus was normal. CT scan done a year later showed increase in size to 15.8×8.2x10.7. Imaging features were suggestive of a peritoneal leiomyoma. All blood parameters as well as tumour markers (CEA, CA 125, CA 19-9, AFP) were normal. Guided biopsy done was suggestive of a low grade spindle cell neoplasm.

Patient underwent explorative laparoscopy under general anaesthesia. Intraoperatively, both ovaries and the uterus were identified as normal. The tumour was located in the midline preperitoneally, approximately 2 cm from the urinary bladder. The macroscopic appearance was that of a leiomyoma with irregular surface. It had no relationship to the ovaries or the round ligaments. The tumour was excised after incision of the serosa covering its abdominal side, and separation from the surrounding tissue. The tumour was removed from the peritoneal cavity after giving a small supraumbilical incision. The patient was discharged on the day after the operation and did not receive any additional therapy. On follow up, histopathology confirmed the diagnosis of peritoneal leiomyoma without any malignancy.

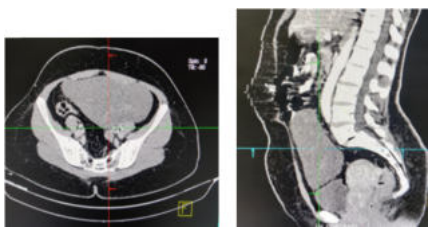

Fig 1,2,- CT Scan images showing solid mass consistent with peritoneal leiomyoma

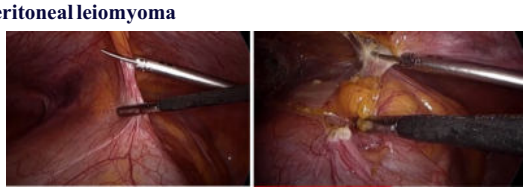

Fig 3,4- Intraoperative findings showing peritoneal leiomyoma and its dissection

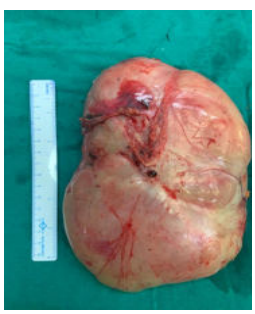

Fig 5- Specimen of peritoneal leiomyoma showing irregular surface

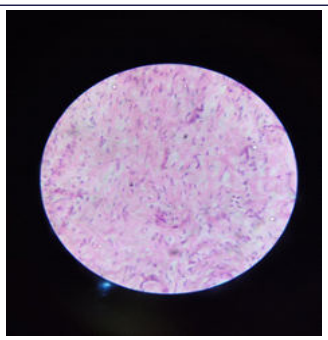

Fig 6- Histopathology slide showing spindle shaped cells with whorled appearance

Discussion

Extrauterine leiomyomas(EULs) are a rare entity and their etiology is not clear. They grow in unusual patterns and locations, thus possess greater diagnostic challenge. They can occur following seeding of myomatous tissue during previous uterine surgery more commonly laparoscopic procedures(2,8). Different presentations of EUL are disseminated peritoneal leiomyomatosis (DPL), benign metastasizing leiomyoma, intravenous leiomyomatosis, parasitic leiomyoma (PL)and extrauterine adenomyoma.[4]

In the literature, four hypothesis have been proposed for the development of EUL which includes (1) Müllerian duct fusion defect - the failure of fusion of Müllerian ducts result in either duplication or atresia of the uterus which is suggested by the formation of uterine-like masses, (2) Subcoelomic mesenchyme transformation - Subcoelomic mesenchyme is a layer of tissue that lies underneath the mesothelial surface of the peritoneum. It also lies underneath the subserosal stroma of uterus, uterine ligaments, ovaries and fallopian tubes, (3) Müllerianosis - It is a heterotopic Müllerian rests incorporated into other organs during organogenesis which may proliferate in response to hormones and (4) Endomyometriosis - along with endomyometriosis, smooth muscle hyperplasia or metaplasia leads to EUL.

The diagnosis of primary peritoneal leiomyoma can be made only when there is no antecedent history of abdominal surgery, open or laparoscopic. The exact cause of the origin of primary peritoneal leiomyoma is unclear. It has been postulated that the transformation of the cells of the vessel wall to leiomyoma occurs probably due to somatic mutations and interplay of hormonal and growth factors [2,7].

Complete surgical excision is considered the mainstay and definitive treatment for EULs. Patients with peritoneal leiomyomatosis have been classically treated with laparotomy. However previous attempts at laparoscopic removal of peritoneal leiomyomas have been successful.(6) DPL mimics carcinomatosis, so total abdominal hysterectomy along with bilateral oophorectomy is often the preferred surgical treatment. In unresectable cases of EULs, a medical treatment with aromatase inhibitors, chemotherapeutic agents or a gonadotropin agonist can be considered. During morcellation, falling pieces of myoma fragments should be avoided. Certain guidelines discourage the use of laparoscopic power morcellation during hysterectomy or myomectomy for the treatment of uterine fibroids. The rate of unexpected sarcoma after morcellation is 0.09%. The tumour should be carefully removed en bloc minimizing spillage of tumour cells to prevent recurrences.[2]

Conclusion

Extrauterine Leiomyomas possess a great diagnostic challenge due to abnormal locations as well as their unusual growth patterns. Extrauterine Leiomyomas are hormone sensitive and may regress automatically after the recession of hormonal sources, however, this phenomenon is not universal. Due to their higher propensity for recurrence and rare malignant transformation a close follow-up is required. Laparoscopic removal of such tumours is a viable minimally invasive option.

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