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CASE REPORT ON OVARIAN TUMOUR MIMICKING OVARIAN FIBROTHECOMA

Obstetrics & Gynaecology

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ABSTRACT

This case report describes an 80-year-old female with a history of postmenopausal status who presented with diffuse left-sided lower abdominal pain, swelling, vomiting, constipation, weight loss, and loss of appetite. Imaging studies revealed a lobulated soft tissue lesion on the left lateral wall of the uterus, suggestive of a sex cord-stromal tumour with degenerative changes. Surgical interventions included total abdominal hysterectomy, bilateral salpingo-oophorectomy, and pelvic lymph node dissection. Histopathological analysis confirmed the presence of fibrothecoma. Postoperative recovery was uneventful, with resolution of the immediate symptoms and management of postoperative urinary incontinence. Immunohistochemical markers supported the diagnosis of the fibrothecoma. This case emphasises the importance of thorough evaluation, multimodal imaging, surgical intervention, and histopathological analysis in managing complex gynaecological conditions such as fibrothecomas.

KEYWORDS

Fibrothecoma, Minor sex cord elements, MRI, ovary.

INTRODUCTION

Ovarian neoplasia manifests in diverse forms, with some benign and others malignant. Sex cord-stromal neoplasia is a rare and distinct type of ovarian tumour that constitutes approximately 8% of all ovarian neoplastic cases. These tumours are categorised as gonadal cell types and originate from either mesenchymal cells or the coelomic epithelial cell layer during embryonic gonadal development. [1]

Fibrothecomas are among the most common types within this category. Ovarian fibrothecomas are rare, originating from gonadal stromal cells, and comprise approximately 3-4% of all ovarian neoplasms. [2,3] They are mostly benign, and rarely malignant. [4,5] Typically, they occur unilaterally in approximately 90% of the cases and are more prevalent in postmenopausal women. [3,6]

To our knowledge, only a limited number of cases have been documented [1-6], and in-depth imaging results are not currently available. [7-12] We present the case of an 80-year-old female ovarian tumour mimicking ovarian fibrothecoma.

Case Report

An 80-year-old female, who had been married for 50 years presented at the gynaecology outpatient department of Sree Balaji Medical College and Hospital. The patient, who had been sterilised and experienced menopause for 25 years, was identified as P6L4A1. She had previously delivered full-term infants via normal vaginal delivery.

Presenting Complaints:

A female patient reported experiencing diffuse left-sided lower abdominal pain intermittently over the past month, accompanied by swelling in the lower abdomen that extended up to the umbilicus, a symptom that has persisted for one year. Additionally, the patient had experienced three to four episodes of vomiting per day for the past month, which contained food particles but were neither blood-tinged nor bile-stained. The patient also experienced constipation for the past six months. The patient had a history of weight loss, totalling 8 kg over the past year, and had also experienced loss of appetite for one year, and the patient had no comorbidities.

Menstrual History:

The patient experienced menarche at the age of 14 years, with subsequent regular menstrual cycles. The patient had been postmenopausal for 25 years.

Marital History: married for 50 years, non-consanguineous marriage

Obstetric history: All full-term normal vaginal deliveries.

History: nil significance.

Family history: There was no history of any medical disorder or malignancy.

Examination:

Vital signs and general condition were normal. Per Abdomen–soft, vague mass felt in the suprapubic region.

Local Examination:

The peculum-cervix and vagina were healthy, with no abnormal discharge. Bimanual examination showed that the cervix was pushed towards the right side, and a fixed, irregular hard mass was felt in the posterior fornix with restricted mobility. Rectal examination revealed that the same mass was felt through the rectal wall.

Investigation:

All standard blood tests were conducted and the results were within normal limits. The Pap smear test result was negative for abnormal cells or cancerous growth. An ultrasound scan of the entire abdomen was performed, revealing that the uterus appeared enlarged, with measurements of 10.6 cm × 9 cm × 7.6 cm, and was positioned slightly forward. A heterogeneous lesion with multiple cystic areas, measuring 8.5 cm x 7.4 cm, was observed in the fundus and anterior wall of the uterus. The lesion showed minimal peripheral blood flow.

Impression - degenerative fibroids of the uterus.

The CECT ABDOMEN displayed a defect measuring 3 cm in the infra-umbilical region, containing the bowel as its content and featuring prominent proximal bowel loops. Therefore, infraumbilical obstructive hernia should be considered. A heterogeneous lesion measuring - 11.4 × 9.6 × 8.5 cm was identified on the left lateral wall of the uterus, indenting the urinary bladder anteriorly. The left ovary was not visible separately, and the possibility was either a broad ligament fibroid or left ovarian lesion.

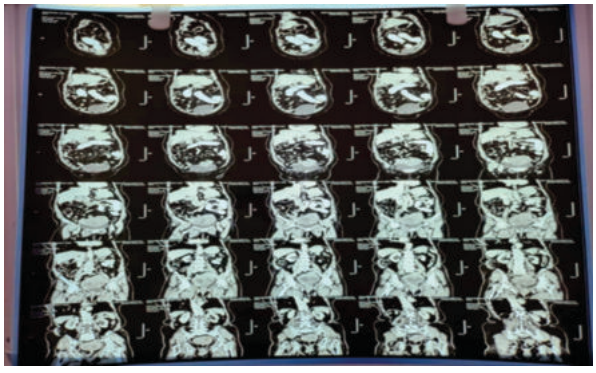

Figure 1. PET CT SCAN showed an FDG-avid lobulated soft tissue lesion measuring 126 × 93 × 101 mm (AP × TR × CC) with internal cystic areas along the left lateral wall of the uterus.

The results of the PET-CT SCAN revealed the presence of a lobulated soft tissue lesion measuring 126 × 93 × 101 mm (AP × TR × CC) on the left lateral wall of the uterus. The lesion displayed avid FDG uptake and contained internal cystic areas. Additionally, the scan identified an infraumbilical defect containing a small loop in the ileum. The urinary bladder was displaced and compressed anteroinferiorly by the pelvic lesion, and mild ascites were observed (Figure 1).

Impression
A lesion was observed along the left lateral wall of the uterus, which was characterised by a mildly hypermetabolic, lobulated soft tissue mass containing internal cystic areas. The likelihood of this being a sex cord-stromal tumour of the left ovary is high, with degeneration being the most probable diagnosis. Additionally, a broad ligament fibroid with degeneration has been identified as a potential contributor to the lesion. Mild ascites was noted, as well as diffuse metabolic activity in the thoracic oesophagus, suggestive of oesophagitis.

Procedure Done:
Undertaken laparotomy included total abdominal hysterectomy accompanied by infracolic omentectomy and pelvic lymph node dissection.

Operative Procedure:
Under anaesthesia, the patient was placed in the lithotomy position, with parts painted and draped. The abdomen was opened through a midline incision, and the ascitic fluid was sent for cytological examination. During the procedure, a solid mass measuring 20 × 15 cm was discovered in the left ovary, while the right ovary and uterus were atrophic. The entire small intestine was inspected and no peritoneal deposits were observed. The right and left paracolic gutters, subdiaphragmatic surface, liver, and spleen were also examined and no deposits were detected. No deposits were observed in the pouch of Douglas or the uterovesical fold of the peritoneum. Total abdominal hysterectomy with bilateral salpingo-oophorectomy was performed, and the bilateral broad ligaments were resected along with the uterus.

Peritoneal biopsies were taken from the pouch of Douglas, uterovesical fold of the peritoneum, right and left paracolic gutters, and subdiaphragmatic surface. Infracolic omentectomy was also performed, followed by bilateral pelvic lymph node dissection and bilateral obturator lymph node dissection. Paracolic lymph nodes were inspected and palpated, and no enlarged lymph nodes were found. Hemostasis was ensured, and the abdomen was closed in layers after checking the number of mops, pads, instruments, and needles. The rectus was closed with 1-prolene and the skin was closed with 2-0 Ethilon. Sterile compression dressing was applied postoperatively, and the patient's vital signs were stable.

Postoperative Period:
No immediate postoperative period was observed. Administration of thromboprophylaxis was also ensured. On the eighth day after surgery, the sutures were removed. On the twelfth day after surgery, the patient reported persistent symptoms of urinary incontinence. A urology consultation was sought, and the specialist recommended the use of a catheter for one week and administration of anticholinergic medication for five days. The patient's symptoms improved, leading to discharge, with plans for regular follow-up appointments (Figure 2).

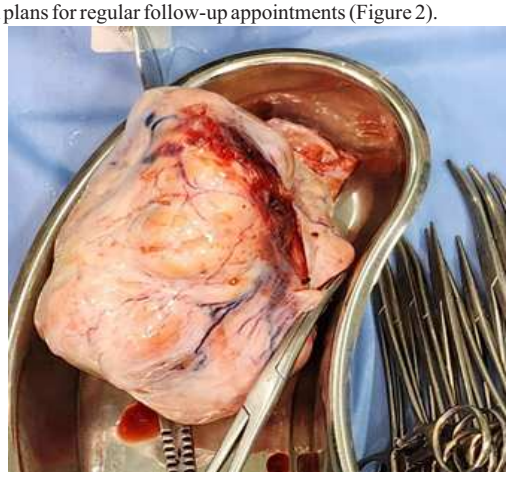

Figure 2. Postoperative image after removal

Histopathology Finding:
Microscopy revealed a cellular neoplasm that entirely replaced the ovary. The neoplasm comprises spindle cells, which are characterised by plump, elongated nuclei in most areas and slender, tapered nuclei in a few regions. These cells were arranged in sheets, interlacing bundles, and whorls. There are also focal areas of hypocellularity that contain cells with clear cytoplasm (luteinized cells). This finding was confirmed by a negative PAS and Alacian blue staining result. The peripheral rim of the ovarian tissue is intact. The ectocervix is benign, but mild hyperplasia of the endocervix with hyalinised stroma is observed. The endometrial glands are of the proliferative type and the stroma is compact. A few cystically dilated glands are also observed. Fibrocollagenous tissue, fatty tissue, and thick-walled blood vessels were observed, and the lymph nodes were tumour-free.

Ascitic fluid cytology: occasional atypia

Impression: Immunohistochemistry markers indicated that the tumour was likely a fibrothecoma, with a Ki65 percentage of 2% and INHIBIN being patchy positive, while CD10 was negative. The cervix was found to have chronic cervicitis, and the uterus showed a proliferative endometrium with a benign endometrial polyp.

DISCUSSION

Thecofibroma is a sex cord-stromal tumour classified as a benign solid tumour of the ovary. It accounts for 1-4.7% of all ovarian neoplasms and is typically unilateral. The clinical symptoms associated with fibroma are non-specific and may include abdominal distension, abdominal pain, and pressure symptoms resulting from compression of the mass. These symptoms may also resemble those of Meigs syndrome, which involves ovarian fibroma, hydrothorax, and ascites. In some cases, thecofibromas can cause irregular menstrual cycles, amenorrhoea, endometrial hyperplasia, and carcinoma.

On abdominal CECT, a heterogeneous lesion can be observed on the left lateral wall of the uterus, indenting the urinary bladder due to the size of the mass. In such cases, the possibility of a broad ligament fibroid should be considered. The differential diagnoses for thecofibroma include pedunculated leiomyoma, broad ligament fibroid, sex stromal tumour, and dysgerminoma. The presence of cystic degeneration can sometimes lead to misdiagnosis of thecofibroma as a malignant ovarian tumour.

To accurately diagnose thecofibroma, investigations such as MRI, CECT Abdomen, and PET CT may be considered. The management of thecofibroma typically involves the use of empirical analgesics to alleviate pain, followed by early diagnosis and surgical resection as the treatment of choice. In young patients, only excision of the tumour must be performed. In the case of perimenopausal and postmenopausal women, radical surgery must be considered for better prognosis. Kitajima et al. [13] observed that ovarian fibromas typically display low signal intensity on T2-weighted imaging (T2WI) and demonstrate weak enhancement with contrast material, indicative of their pathological characteristics. Larger tumours exhibit a range of MRI findings, reflecting diverse degenerative changes such as haemorrhagic infarction or necrosis, oedematous change, and myxomatous change.

In a separate study, Shinagare et al. [14] found that the enhancement of fibromas and fibrothecomas was notably lower than that of the myometrium and fibroids at all time points. Most ovarian fibromas and fibrothecomas appear isointense to hypointense relative to the uterine myometrium in both T1- and T2-weighted images. Additionally, these ovarian tumours demonstrate significantly less progression than the uterine myometrium and fibroids.

An earlier study observed that the majority of malignant sex cord-stromal tumours exhibit high signal intensity on diffusion-weighted imaging (DWI), whereas most benign tumours display low to moderate signal intensity. [15] However, we did not report similar findings in our case. Omori et al. [12] documented a case in which functional activity was linked to ovarian fibroma and minor sex cord elements due to the absence of thecoma cells, despite thorough investigation and fat staining. Following surgery, meticulous follow-up, including monitoring of the endometrium, is recommended.

CONCLUSION

This case report outlines the diagnosis and surgical treatment of an 80-

year-old woman with a complex pelvic mass. Her clinical history and imaging findings indicated a sex cord-stromal tumour with degenerative changes. Surgical intervention, including total abdominal hysterectomy and related procedures, confirmed the presence of fibrothecoma. Postoperative recovery was smooth, with resolution of symptoms and appropriate management of postoperative issues, such as urinary incontinence. This case highlights the importance of thorough clinical evaluation, multimodal imaging, histopathological analysis, and multidisciplinary surgical interventions in managing complex gynaecological conditions such as fibrothecomas.

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