

Case report

Scerosing stromal tumor of the ovary: A case report

Nisha Marwah, Manoj Sankala, Pradeep Sansanwal, Gurpreet Singh, Megha Kathuria, Rajeev Sen

Department of Pathology, Pt. B.D. Sharma PGIMS Rohtak, Haryana, India

Corresponding author : Dr Manoj Sankala

Abstract

Scerosing stromal tumor (SST) is an extremely rare and benign ovarian neoplasm of the sex cord stromal category which occurs predominantly in the second and third decades of life. Herein, we report a case of scerosing stromal tumor of ovary in a 22 year old woman who was clinically suspected to have malignancy, but proven to be SST of ovary on histopathological examination. Hence, in such circumstances it is essential to keep in mind the possibility of scerosing stromal tumor in a young woman.

Key words: ovary, scerosing stromal tumor, fibroma

Introduction

Scerosing stromal tumors (SST) are rare benign ovarian neoplasms of the sex cord stromal category. Most cases occur predominantly in the second and third decades of life. The tumor is characterized by cellular pseudolobules, prominent intralobular fibrosis, frequently marked vascularity and a dual cell population.¹ Diagnosis of scerosing stromal tumor is often made by postoperative pathologic examination. The important differential diagnosis are other sex cord stromal tumors including fibroma, thecoma and lipoid cell tumors.^{2,3}

Case Report

A 22 year old woman presented to the hospital with vague abdominal pain, abdominal fullness and irregular menstruation since last two years. On clinical examination, a large mass was palpable in right hypogastric region arising from the pelvis. Ultrasonography showed a heterogeneous apparently solid mass of 96x88 mm dimension with some cystic foci in right ovary. All laboratory tests including tumor markers and serum hormonal assays were normal. Under the impression of solid ovarian tumor,

the patient underwent exploratory laprotomy. After opening the peritoneal cavity, 200 cc of clear fluid in the cul-de-sac was found and a smooth well circumscribed mass was found attached to the right ovary. For this, right sided oophorectomy was done and biopsy from omental tissue, peritoneum and left ovary was taken. Gross examination of the resected specimen showed an encapsulated, globular soft tissue mass measuring 8x6x3 cm with smooth surface attached to normal appearing ovarian tissue. On cut sections, the mass was grey white to grey yellow, solid in consistency along with multiple cystic foci.

Microsections examined revealed ill-defined, cellular pseudo-lobules separated by hyalinised and edematous stroma. Two cell types were present within the lobules: spindle cells producing collagen and polygonal cells with round to oval nuclei. Mitotic figures were not seen and cytoplasm was vacuolated. Prominent thin walled blood vessels were seen within some nodules.

Immunohistochemical analysis on the tissue blocks revealed positivity for vimentin, inhibin, smooth

muscle actin (SMA), and calretinin while negativity for desmin.

Sections examined from omental tissue, peritoneum and left ovary were unremarkable.

The specimen was diagnosed as Sclerosing Stromal tumor of the right ovary.

Discussion

Sclerosing stromal tumor is a rare and benign ovarian tumor which is derived from the sex cord stroma. This tumor was first described by Chalvaridjian and Scully (1973)⁴ and occurs most frequently in the second and third decades of life. This relatively rare tumor characteristically differentiates itself clinically and histologically from others. The most common presenting clinical symptoms include menstrual irregularity, pelvic pain and non-specific symptoms related to ovarian mass. Masculinization or anovulation may be present in some patients as they are occasionally associated with estrogen and rarely androgen secretion.⁵ The patient reported here had no clinical virilization and hormone levels were normal. Microscopically, the tumor is characterized by cellular pseudo-lobules, prominent interlobular fibrosis, frequently marked vascularity and a dual cell population: collagen producing spindle cells and lipid containing round or ovoid cells. The heterogeneity due to the variation in cellular size and shape are helpful features in the differential diagnosis of sclerosing stromal tumors and contrasts with the relative homogeneity of thecoma and fibroma.^{1,6}

Vascular tumor due to prominent vascularity and massive ovarian oedema may be confused with sclerosing stromal tumor. Inhibin positivity suggests the diagnosis of sclerosing stromal tumor over vascular tumor, whereas oedematous stroma and absence of heterogeneity favours the diagnosis of massive ovarian oedema.⁷

Rarely, the vacuolated cells in SST may evolve into a signet ring like structures that mimics the Krukenberg tumor. However, they can be differentiated as the later are mostly bilateral, occur usually in the sixth and seventh decades and lack pseudo-lobular pattern of SST. Signet ring cells of Krukenberg tumors contain mucin rather than lipid and may exhibit mitotic activity and nuclear atypia.¹

Immunohistochemical analysis in SST shows positivity for predominantly SMA, inhibin and vimentin, suggesting stromal origin of sclerosing tumors (as seen in our case).⁸ Other immunohistochemical markers such as calretinin or desmin may be positive or negative and SSTs are negative for pancytokeratin.

It is difficult to distinguish SSTs consisting of solid and cystic areas from ovarian malignancies on the basis of radiological and macroscopic examination as these tumors additionally appear very vascular giving the impression of malignant tumors. On radiological examination, especially by sonogram, the appearance of SSTs may be confused to be malignant ovarian tumor as they show a mixed pattern of solid and cystic component.⁹

Conclusion

The present case suggests that SST cannot be predicted preoperatively on the basis of clinical and sonographic findings, but this rare tumor should be kept in mind while dealing with young female patients with ovarian mass which will help to prevent untoward morbidity of the patients due to extensive surgery and also help in the selection of definite treatment.

Conflicts of Interest

The authors have no conflicts of interest.

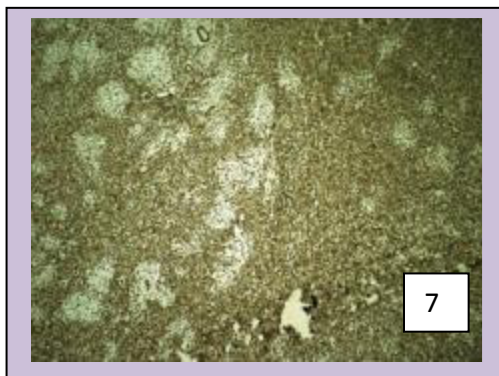
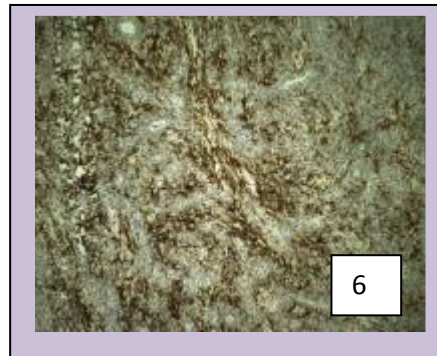
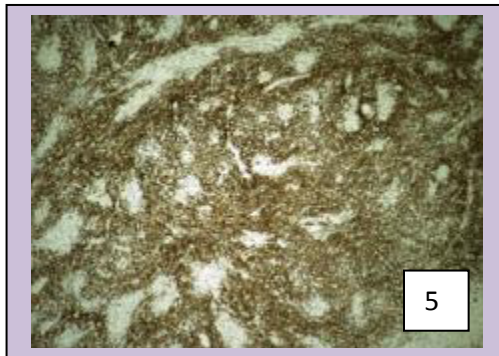
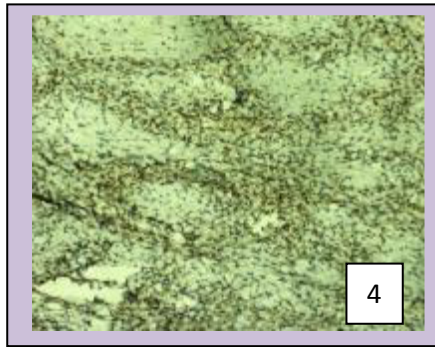
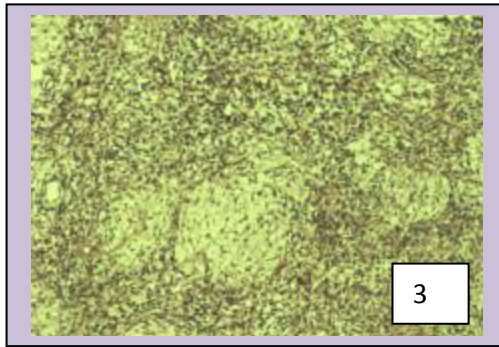
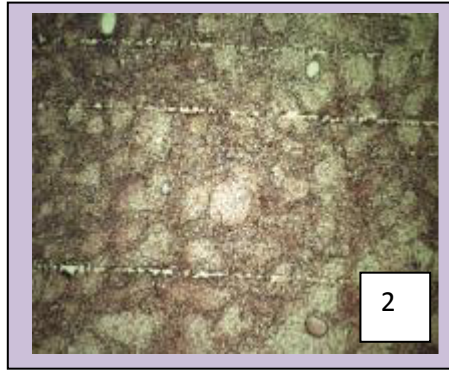
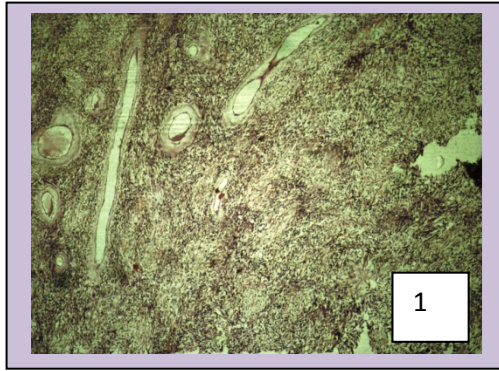


Figure. 1 Prominent and dilated blood vessels(4X)
Figure. 2 Cellular pseudolobular pattern separated by edematous fibrous band (4X)
Figure. 3 Two distinct cell population of spindle shaped fibroblast admixed with polygonal vacuolated cells (4X)
Figure. 4 Calretinin positive cells (10X)
Figure. 5 Inhibine positive cells(4X)
Figure. 6 SMA positive cells (10X)
Figure. 7 Vimentine positive cells (10X)

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