



Prevalence of Fibrothecoma of Ovary in Bikaner Region

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Abstract

Background: Fibromas and fibrothecomas, which are benign ovarian stromal tumors, account for around 4% of all ovarian neoplasms but represent the most common sex cord stromal ovarian tumors.

Methods: This study is a retrospective study conducted at the Department of Pathology, Sardar Patel Medical College and associate group of hospitals, Bikaner, Rajasthan over the period of three years from Jan 2017 to Dec 2019.

Results: We received a total of 688 specimens of ovaries in form of total abdominal hysterectomies and salphingo-oophorectomies during the study period. Out of these 688 specimens, 492 were non neoplastic lesions and 196 were neoplastic lesions including both benign and malignant lesions. Out of the total neoplastic lesions 5 (2.55%) patients were diagnosed with fibroma or fibrothecoma of ovary.

Keywords: Fibrothecoma, Fibroma, Thecoma, Ovarian Tumor.

Introduction

Fibromas and fibrothecomas, which are benign ovarian stromal tumors, account for only 4% of all ovarian neoplasms but represent the most common solid primary ovarian tumors in asymptomatic women of all ages [1]. Pathologically, fibromas and fibrothecomas are benign tumors that belong to the sex cord stromal tumor category. Fibromas are composed of whorled fascicles of cytologically bland spindle cells embedded in a collagenous stroma [2]. Fibrothecomas differ slightly from fibromas; they have sheets and nests of plump spindle cells with lipid-rich cytoplasm (theca like cells) in a background of bland fibroma like spindle cells. Moreover, they may have intermixed lutein cells and are frequently estrogenic, although up to 10% may have androgenic activity [2]. Ovarian fibromas and fibrothecomas may present with pleural effusions or ascites, known as the Meigs syndrome. Fibromas and fibrothecomas may also be associated with the basal cell nevus (Gorlin- Goltz) syndrome,

which consists of bilateral large multinodular ovarian fibromas, multiple basal cell carcinomas of the skin, odontogenic keratocysts, and other abnormalities [2].

Methods

This study is a retrospective study conducted at the Department of Pathology, Sardar Patel Medical College and associate group of hospitals, Bikaner, Rajasthan over the period of three years from Jan 2017 to Dec 2019. We report here the prevalence of fibroma and fibrothecoma of ovary.

All ovarian specimens received at the department of pathology during the study period were included in the study. The clinical and other relevant data was recorded from the requisition form and patient's clinical records. Gross examination was done and findings recorded. All the specimens were fixed in 10% formalin. Sections were taken from each of the specimen as per protocol. All sections were stained with hematoxylin and eosin and examined under the light microscope. Special staining was done whenever required.

Results

We received a total of 688 specimens of ovaries in form of total abdominal hysterectomies and salphingo-oophorectomies during the study period. Out of these 688 specimens, 492 were non neoplastic lesions and 196 were neoplastic lesions including both benign and malignant lesions. Out of the total neoplastic lesions 5 (2.55%) patients were diagnosed with fibroma or fibrothecoma of ovary. The patients were between the ages of 50 yrs and 80 yrs with the mean age of 67.4 yrs. All the five patients presented initially with pain abdomen and found to have mass per abdomen on clinical examination and further investigations done. The clinicopathological data in relation to fibroma/fibrothecoma are shown in Table 1. [Table 1]

The gross and histopathological features of fibroma/fibrothecoma are shown, [Figure. 1, 2, 3].

Table 1. Clinicopathological characteristics of patients with fibroma / fibrothecoma of ovary.

Patient No.	Age (years)	Surgical Procedure	Clinical findings at presentation	Diagnosis (ovarian lesion)
1	72	TAH with BSO	Pain abdomen, abdominal mass	Fibrothecoma of ovary with simple serous cyst.
2	50	TAH with BSO	Pain abdomen, abdominal mass	Fibroma
3	80	TAH with BSO	Pain abdomen, abdominal mass	Fibroma
4	65	TAH with BSO	Pain abdomen, abdominal mass	Fibroma
5	70	TAH with BSO	Pain abdomen, abdominal distension, breathing difficulty	Fibrothecoma with Meig's Syndrome.

* TAH with BSO – Total abdominal hysterectomy with bilateral salphingo-oophorectomy.

Discussion

Fibroma and thecoma are closely related tumors, The name fibrothecoma is because the theca cells of normal ovary have more of the characteristic of connective tissue elements. Stromal tumors of the ovary include thecoma and fibroma, yet as differentiation between these two types may be difficult hence the term fibrothecoma has emerged in recognition of the similar immune-histochemical features present in both.

The exact incidence of fibrothecoma is unknown, although they have been described as rare ovarian neoplasms with around 3-4% of total ovarian neoplasms [2,3]. They are rarely malignant [5,6] and in 90% of the cases are unilateral [4]. In the present study we reported the prevalence of 2.55% of all ovarian tumors and all the five cases presented with unilateral fibroma /fibrothecoma, the finding consistent with published literature. Fibromas and fibrothecomas most commonly present in postmenopausal age group [4], in the present study the findings are consistent with this and all of the patients were in perimenopausal and postmenopausal age.

Grossly, nearly all fibroma / fibrothecoma are firm and have a smooth lobulated surface, with size range from 1 - 21.5 cm (average 6 cm). Cut surface of fibromas/fibrothecoma has a solid white or tan / yellow appearance [Image 1], about 1/4 of all fibromas/fibrothecoma have cystic changes and about 1/3 of cellular fibromas contain cysts; edema is frequent. Necrosis and haemorrhages may be present. Calcifications may be present in around 10% cases. In the present study the size of the tumor varied between 8cm to 15 cm on maximum diameter.

On microscopic examination fibromas/fibrothecoma are composed of closely packed spindle shaped stromal cells which were randomly distributed or arranged in a fascicular fashion or storiform pattern [Image 3]. An appreciable amount of the stromal neoplasm was characterized by thecal cells which were oval or rounded to polyhedral with moderate to abundant pale to clear vacuolated cytoplasm [Image 2 (A & B)]. The nuclei were round to oval and pale and exhibit little or no atypia. The fibromatous component could be seen separating the sheets and nests of theca cells. The intervening tissue may show considerable collagen

deposition and focal hyaline plaque formation. Most fibrothecomas are moderately cellular with infrequent mitotic figures (usually fewer than 4 mitotic figures per 10 high power field).[7] Mitotic figures were not seen in any of the cases in present study. Special stains and IHC is used to confirm the diagnosis. Fibromas are Inhibin positive (focally), and Vimentin positive. Pure thecomas can be differentiated from fibromas as pure thecomas are inhibin positive.

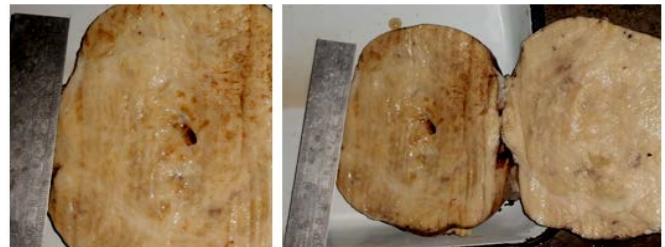


Figure 1: Gross appearance of fibrothecoma showing smooth lobulated surface. Cut surface is grey white / tan with few yellowish area.

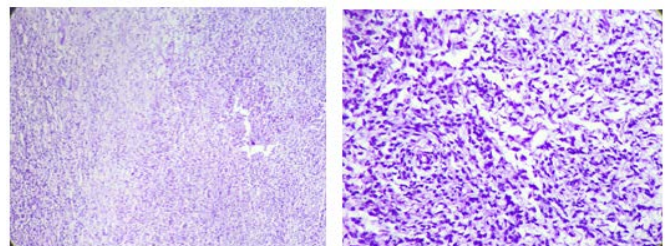


Figure A

Figure B

Figure 2: A (10x) and B (40x) - Microscopic picture of fibrothecoma showing spindle shaped cells and also rounded cells with clear cytoplasm.

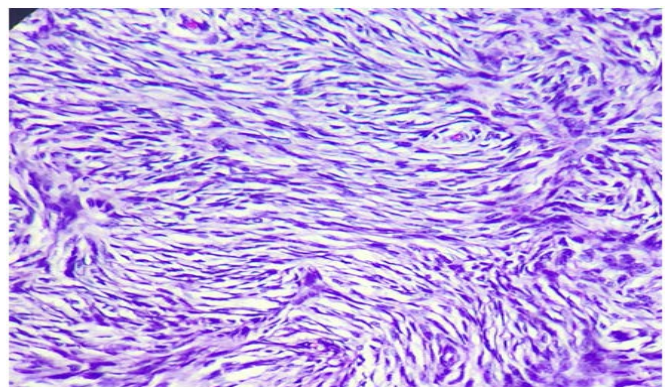


Figure 3: Fibroma with spindle shaped cells in feather stitch or storiform pattern.

We reported the prevalence of fibroma / fibrothecoma as 2.55 % of all ovarian tumors received at our institute, the finding consistent with other studies with prevalence on a slightly lower side.

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