Case Report

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Pathology Section

Steroid Cell Tumour of Ovary – A Rare Case Report

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ABSTRACT

Steroid cell tumours of the ovary are uncommon sex- hormone secreting tumours characterized by a steroid cell proliferation. The incidence of steroid cell tumour of the ovary is only 0.1% of all ovarian tumours. As far as steroid cell tumours, not otherwise specified (NOS) is concerned; it constitutes about 56% of all steroid cell tumours. Here we present a case of 55-year-old, postmenopausal patient who presented with complaints of bleeding per vaginum and abdominal pain for last 3-4 months, with history of excessive hair growth since 3-4 years. Ultrasonography revealed a solid right ovarian mass with a possibility of ovarian sex cord tumour. Histopathology confirmed the diagnosis of steroid cell tumour NOS type with no cytological atypia.

Keywords: Adnexal mass, Androgenic, Post-menopausal

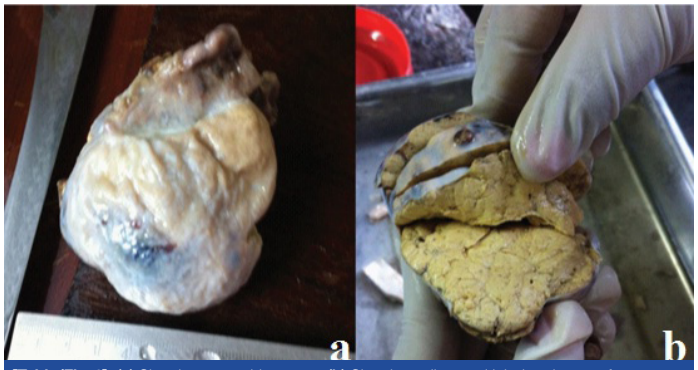
CASE REPORT

A 55-year-old postmenopausal lady presented with complaints of bleeding per vaginum and lower abdominal pain for the last 3-4 months. She also had increased body hair for last 3-4 years. She had three children and there was no history of any abnormality during her pregnancy. There was no history of any contraception and exogenous hormone intake.

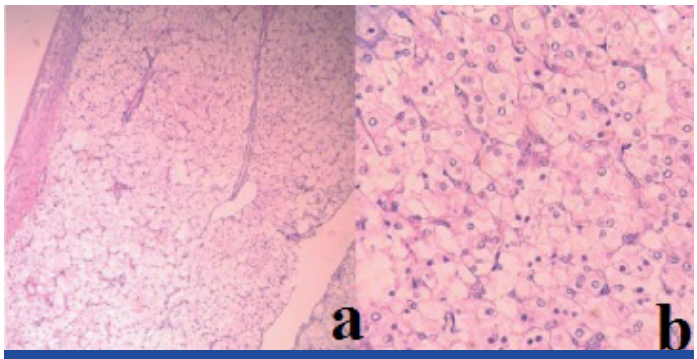
Past medical history was otherwise unremarkable. Family history was noncontributory. Ultrasonography revealed a hypoechoic right adenexal mass measuring 65x40x30mm. This mass was not separated from right ovary. A possibility of ovarian sex cord tumour was given. A total hysterectomy with bilateral salpingo-oophorectomy was done and the specimen was received in our department for histopathological examination.

An already cut open gross specimen of uterus was received measuring 9x6x3.5cm in size with one tube and ovary and other fallopian tube and ovary lying separately in container. Ovarian tumour measured 6x4x3cm. It was replacing whole of the ovary without any peripheral ovarian stroma. Cut surface was solid and yellow in colour [Table/Fig-1a&b]. Other side ovary was grossly normal. Specimen of omentum measuring 45cm in length was also received.

Sections from ovarian tumour showed well circumscribed tumour comprising of large round to polygonal cells with centrally placed nuclei, prominent nucleoli and abundant amount of eosinophilic cytoplasm [Table/Fig-2a&b]. There was no atypia, mitotic figures or necrosis noted in the tumour. Stroma was scanty. Histological features were consistent with steroid cell tumour NOS type. The cervix showed features of chronic cervicitis while the endometrium showed atrophic changes. The other side ovary and tube was unremarkable. Patient was discharged after 1 week with stable condition and was adviced follow up after 1 month. Patient's excessive hair growth reduced after few months and there were no other complaints.



[Table/Fig-1]: (a) Showing grey-white tumor. **(b)** Showing yellow and lobulated cut surface.



[Table/Fig-2]: (a) Showing well circumscibed tumor wiyh scanty stroma (H&E,10X). **(b)** High power showing polygonal tumor cells with central nuclei, prominent nucleoli and abundant cytoplasm (H&E,40X).

DISCUSSION

The incidence of steroid cell tumours, NOS is highest in women of child bearing age group, particularly during the third and fourth decades, but in rare cases postmenopausal women or children may also have this tumour. Androgenic manifestations are common in these tumours as they secrete hormones like androstenedione, α-hydroxyprogesterone, and testosterone [1,2].

These tumours are known to produce symptoms of virilisation particularly hirsutism. So in cases where there is unexplained hirsutism, ovarian and adrenal tumour association should be ruled out as there may be occult malignancies [3]. However, there may be atypical presentations of these tumours also when they do not show any symptoms of virilisation. In these cases the diagnosis is usually made postoperatively on finding a tumour in ovary [4].

These tumours have been divided into three subtypes according to their cells of origin: stromal luteoma, leydig cell tumour and steroid cell tumour, not otherwise specified (NOS). Of these subtypes, the steroid cell tumours, NOS account for about 56% of steroid cell tumours [5].

A majority of steroid cell tumour NOS are unilateral and well circumscribed. The size varies from 1.2 to 45 cm [6]. Grossly these

tumours are commonly solid, however a combination of solid and cystic form or predominantly cystic form may also be seen. The color of the cut surface may range from yellow to orange to red or brown depending upon the lipid content. Area of haemorrhage and necrosis may also be seen [6]. The tumour in our case was completely solid with no cystic area. The cut surface was typically yellow and lobulated.

Steroid cell tumour, NOS should be differentiated from other two entities in the category of steroid cell tumours including stromal luteoma and leydig cell tumour. Stromal leutoma is usually located in the ovarian stroma. It frequently occurs in association with stromal hyperthecosis. Another feature which can help in diagnosing this tumour is presence of degenerative pseudovascular spaces containing red blood cells [7]. On the other hand, leydig cell tumour is usually present in hilar location. The tumour cells shows cytoplasmic reinke crystals and it is commonly associated with leydig cell hyperplasia [8]. Although pregnancy luteoma may sometimes resemble steroid cell tumour microscopically, however it is commonly multifocal and occurs bilaterally in approximately one-third of patients. It usually regresses after pregnancy [7,9]. In our case, there was no feature like stromal hyperthecosis, pseudovascular spaces or rceinke crystals to suggest the possibility of stromal luteoma and leydig cell tumour.

A clinicopathological correlation is very important in these tumours as the benign looking tumours on histomorphology can behave in a clinical malignant manner [10]. As far as immunohistochemical markers are concerned, inhibin is quite useful in differentiating this tumour from other non sex cord tumours [11].

The treatment of these tumours should be based on the histological picture, surgical staging and patient's desire to preserve fertility [10,12]. In young patient who want to preserve their fertility, unilateral salpingo-oophorectomy is the preferred method of treatment [13]. In our case, as the patient was postmenopausal, a total abdominal hysterectomy with bilateral salpingo-ophorectomy was done. There are certain clinicopathologic parameters which correlate with adverse behaviour of the tumour like older age at the time of presentation, size of the tumour more than 7.0 cm, mitosis more than 2/10HPFs, grade 2–3 nuclear atypia, necrosis, and haemorrhage [4]. Our case had a good prognosis as the size was less than 7 cm, there were occasional mitotic figure and there was absence of necrosis also.

CONCLUSION

Steroid cell tumours, Not Otherwise Specified (NOS), are rare ovarian sex cord-stromal tumours which are usually associated with various virilizing symptoms like hirsutism and amenorrhea. The typical clinical, radiological and histopathological findings can clinch the diagnosis in most of the cases however in difficult cases, immunohistochemistry can be useful.

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