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Case Report

Ovarian leydig cell tumor- A rare presentation without features of and rogenization

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ABSTRACT

Leydig cell tumor is a rare benign tumor which belongs to the category of sex cord stromal tumors of ovary. Leydig cell tumor usually presents with androgenizing features like hirsutism, deepening of voice, or clitoromegaly and are often suspected only if such symptoms are present. Leydig cell tumors can however be estrogenizing or non-functional. We report an incidental finding of Leydig cell tumor in a patient who underwent hysterectomy for postmenopausal bleeding.

1. Introduction

Sex cord stromal tumors account for about 5% of ovarian neoplasms. They can be Pure stromal tumors- like ovarian thecoma, fibroma, steroid cell tumors or Leydig cell tumors, pure sex cord tumors like Granulosa cell tumor, or a Mixed sex cord-stromal tumor like Sertoli Leydig cell tumor. Leydig cell tumors account for 0.1% of all the ovarian tumors.[1,2] They are functional tumors that present usually with androgenizing features. Very rarely they may present with estrogenizing symptoms or can even be non functional.

Here we report an incidental finding of Ovarian Leydig cell tumor, in a patient with post menopausal bleeding.

2. Case History

A 58-year-old woman presented with heavy post-menopausal bleeding of 2 months duration. She also complained of abdominal pain radiating to the back. She gave an uneventful obstetric history, with last child birth 30 years back. She attained menopause 3 years back. No history of loss of appetite or loss of weight. She was on treatment for Diabetes mellitus and systemic hypertension. She had undergone a Dialatation and curettage and the biopsy was reported as endometrial polyp. No other relevant past history or personal history. Her family history was unremarkable, except for her mother undergoing a hysterectomy for Abnormal Uterine Bleeding. D&C endometrial polyp.

Clinical examination was unremarkable. Abdominal examination showed no palpable mass. Per vaginal examination showed bulky uterus, with healthy cervix and 2^{nd} degree descent. She underwent an ultrasound of abdomen and pelvis. The USG report showed a retroverted uterus with mild endometrial thickening. Bilateral ovaries appeared normal and no adnexal lesions were noted. All other laboratory investigations were unremarkable.

She was taken up for Non-Descent Vaginal Hysterectomy (NDVH). Intraoperatively, the uterus was found to be bulky, bilateral ovaries appeared normal and uterus with cervix and bilateral tubes and ovaries were delivered out. The patient withstood the procedure well.

Gross examination of the specimen received was done. The uterus was bisected and endometrial cavity showed a polyp measuring 1.5 x 1.5 x 0.5 cm. Cervix appeared

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elongated, cut section unremarkable. Right ovary external surface appeared unremarkable. Cut section of ovary showed a yellowish well circumscribed lobulated lesion measuring 1.8 x 1.5 x 0.8 cm. No areas of hemorrhage or necrosis was seen grossly. Left ovary and bilateral fallopian tubes appeared grossly unremarkable.

The histopathological study showed an endometrial polyp. No endometrial hyperplasia or endometrial carcinoma was noted. The cervix showed features of chronic cervicitis. The lesion in ovary showed a neoplasm composed of cells arranged in lobules and sheets. The cells were large distinct polyhedral cells, with eosinophilic to vacuolated cytoplasm, round central nuclei with prominent nucleoli. A detailed search showed numerous cytoplasmic Reinke crystals. A diagnosis of Leydig cell tumor of ovary was reached based on the above findings. A retrospective clinical assessment was done, but the patient showed no androgenizing features like hirsuitism, deepening of voice or clitoromegaly. In order to confirm the diagnosis Immunohistochemistry with Inhibin and Calretinin were done from outside. Inhibin showed diffuse strong cytoplasmic positivity. Calretinin also showed strong positivity in the tumor cells. Thus, a final diagnosis of Leydig cell tumor of ovary was made.

3. Discussion

Sex cord stromal tumors are rare neoplasms of ovary. They can be tumors seen as singly or as varying combinations of cells like granulosa cells, theca cells, Leydig cells or sertoli cells. Ovarian Leydig cell tumors are classified under Steroid cell tumors. Leydig cell tumors are distinct from Sertoli- Leydig cell tumor by the absence of sex cord elements. They are very rare tumors and hence there is insufficient information regarding their clinical presentation, morphology and prognosis.[3]

Leydig cell tumors are typically seen in postmenopausal Women. They are usually functioning tumors with androgenizing features. The patients with androgenizing tumors usually present with hirsuitism, deepening of voice, amenorrhoea, infertility, increased muscle mass and clitoromegaly. A clinical presentation with estrogenizing features is rare and under reported in Leydig cell tumor.[1] Hence, the treating physicians are often unaware of the estrogenizing or non functioning Leydig cell tumors. Estrogenizing tumors usually present with postmenopausal bleeding, abnormal uterine bleeding or a thickened endometrium in ultrasonography. The biopsy of such endometrium usually shows endometrial polyp, hyperplasia or carcinoma.[4]

Leydig cell tumors are purely stromal tumor of ovary. They are well circumscribed tumors composed of polyhedral or rounded cells. They have eosinophilic to pale vacuolated cytoplasm, round nuclei with nucleoli and cytoplasmic Reinke crystals.[4]

Leydig cell tumors are usually benign. The main treatment of ovarian sex cord stromal tumors is surgery. Patients usually require endometrial sampling early to rule out endometrial carcinoma, if fertility sparing surgery is planned. A conservative approach with unilateral salpingo-oophorectomy and staging laparotomy maybe done in such cases. Postmenopausal women can be treated with total hysterectomy and bilateral salpingo-oophorectomy with staging laparotomy.[5]

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5. Conflict of Interest

None.

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