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A Case of Adenomatoid Tumor of Ovary: Speculations about Differential Diagnosis

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Abstract: Adenomatoid tumors are rare tumors found in male and female genital tract, and uncommon tumor occurring in the ovary. The typical features of numerous small vacuoles and cystic spaces of the neoplasm; which sometimes resemble the appearance of signet ring cells and vascular lesions. These two features in ovary may cause added diagnostic confusion to that already engenderd by the rarity of this neoplasm in the ovary. The tumor cells showed strong and diffuse positivity for calretinin and other mesothelial markers D2-40. We report an uncommon case of adenomatoid tumor of ovary found incidentally in a 50 year old female.
Keywords: Adenomatoid Tumor, Ovary.

INTRODUCTION

Adenomatoid tumors are rare tumors found in male and female genital tract, and uncommon tumor occurring in the ovary. The typical features of numerous small vacuoles and cystic spaces of the neoplasm; which sometimes resemble the appearance of signet ring cells and vascular lesions. These two features in ovary may cause added diagnostic confusion to that already engenderd by the rarity of this neoplasm in the ovary.

The tumor cells showed strong and diffuse positivity for calretinin and other mesothelial markers D2-40 [1]. We report an uncommon case of adenomatoid tumor of ovary found incidentally in a 50 year old female, with highlights on the differential diagnosis.

CASE REPORT

A 50 year old female, post menopausal since 2 years had history of bleeding per vaginum since 3 months and chronic abdominal pain since 1 month. She underwent hysterectomy with bilateral salpingo-oophorectomy

Gross

The uterus and cervix was small and unremarkable. The left adnexae showed a large, globular ovary attached to fallopian tube which was 4 X 3 X3 cms. Cut surface was solid, firm and yellowish white (Figure 1).

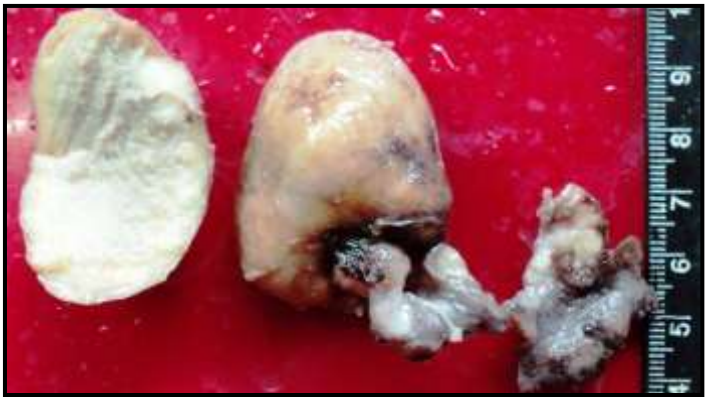

Fig-1: Gross of adenomatoid tumor of ovary. Globular, solid firm mass which is yellow white with fallopian tube attached

Microscopy

The tumor was characterized by proliferation of flattened to polygonal cells showing vacuolizations and arranged in tubules, cords and showing gland like cystic spaces in few areas (Figure 2, 3A). Morphological features are typical of adenomatoid tumor. On immunohistochemical staining, the cell showed strong and diffuse positivity for calretinin, but negative for CD34 and CD31 (Figure 3B, 3C, 3D). Tumor cells were also positive for D2-40, thus confirming the diagnosis of adenomatoid tumor, and signifying the tumor to be of mesothelial origin.

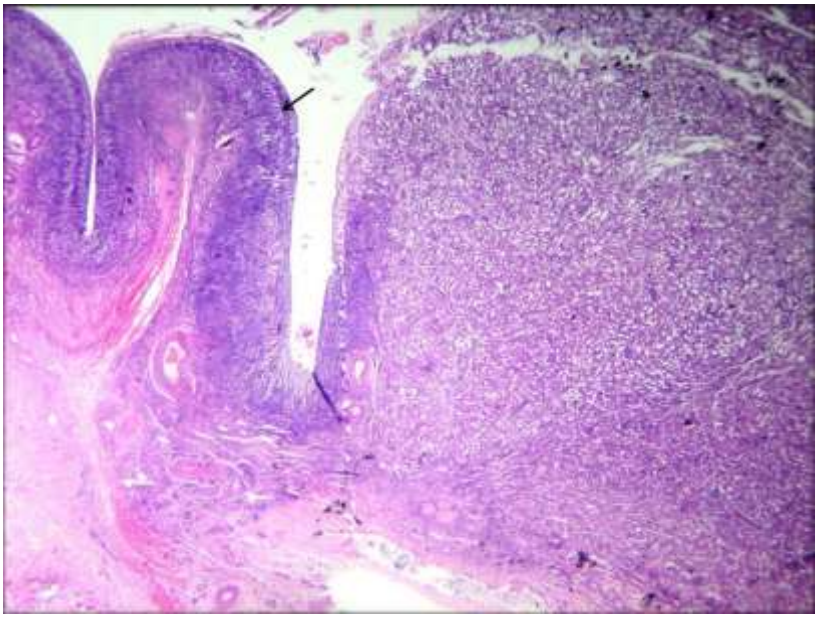

Fig-2: Microscopy of adenomatoid tumor: Ovarian stroma with well circumscribed mass composed of proliferation of polygonal cells with prominent vacuolizations seen throughout. Tubular and cord like pattern noted (H&E X 40)

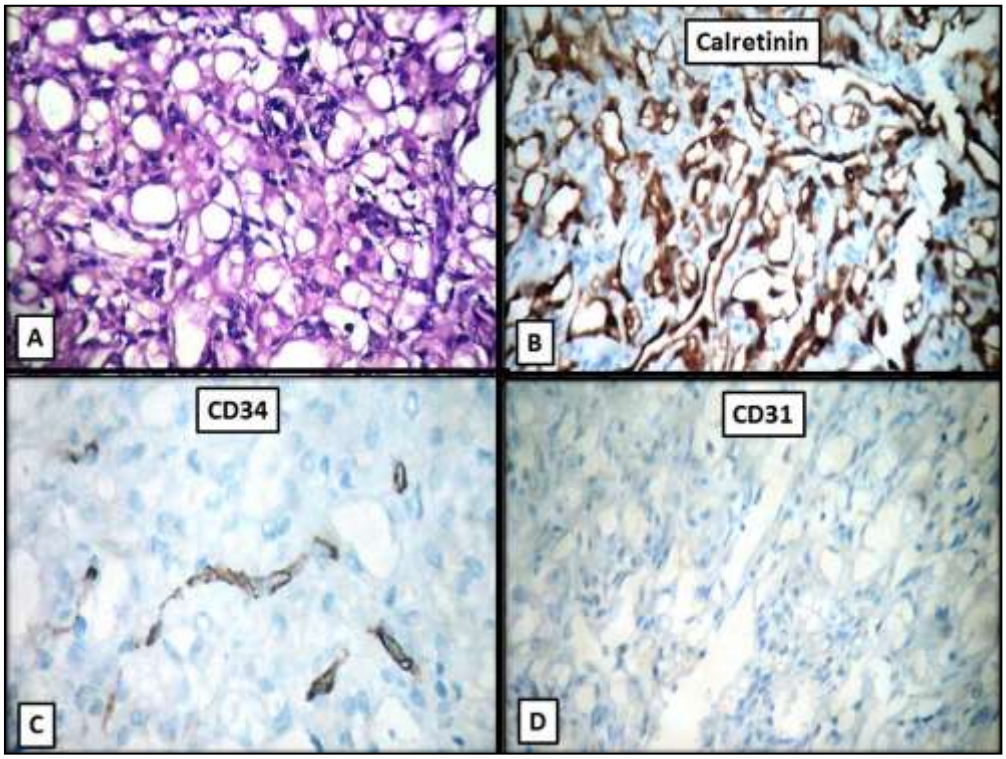

Fig-3: (A) High power highlighting the vacuolated cells.(H&E X400). Immunohistochemical staining shows strong positivity by cells to calretinin-(B), tumor cells negative staining for CD34, but vascular channels in the stroma show positivity (C) and negative staining for CD31.(D)

DISCUSSION

Ovarian adenomatoid tumors are rare, benign masses of mesothelial derivation. They are found usually in the genital tract (both male and female), although occasional cases have been found in numerous other sites [2-4]. Adenomatoid tumors of the ovary typically occur in women of reproductive age and are usually asymptomatic, discovered incidentally on hysterectomy for another indication, as was observed in our case. However, our patient was menopausal.

The appearance of tubular spaces lined by inconspicuous flattened epithelial cells, which in some cases is the dominant appearance, can mimic hemangiomas or lymphangiomas but the absent expression of endothelial markers like CD34 on immunohistochemistry, will rule out vascular tumors [5]. One potential pitfall in this differential diagnosis is that adenomatoid tumors do express the D2-40 antigen commonly used to identify the lining of lymphatic vessels, and care must be taken not to rely on this stain to differentiate the two [1].

Most significantly, the differential diagnosis for adenomatoid tumor may also include infiltrating carcinoma and metastatic carcinomas (signet ring type). Sometimes, where cytoplasm is abundant and vacuolated, central large vacuole, lending them a signet ring appearance. However, close attention to the cytologic features of the lesion, particularly the lack of significant nuclear atypia or mitotic activity, in addition to identification of the typical features described above, and the dissimilarity of these cellular features from any coexisting malignancy, should assist in the recognition of this lesion. When immunohistochemistry is employed to resolve this issue, it should be remembered that the cells of adenomatoid tumor may be keratin positive, and this stain will not be of use in these circumstances. Calretinin, however, which is strongly expressed in adenomatoid tumor, is not expressed in most of the carcinomas which might involve the ovary, and is most useful in this setting, Adenomatoid tumors are associated with an excellent prognosis as they are benign neoplasms.

CONCLUSION

It is important to be aware of this benign subtype of mesothelial tumor and recognize these tumors in the frozen section as this can avoid more aggressive surgery.

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