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Case Report

A Case Report of Endometrial Carcinoma Associated with Benign Brenner Tumor of Ovary: An Incidental Finding

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Abstract

Brenner tumors are rare ovarian tumors accounting for 2-3% of all ovarian neoplasms. These tumors are commonly seen in fourth to fifth decade. They are classified as benign, borderline and malignant. These tumors are associated with estrogen production, thus altering the estrogen-progesterone ratio. This high estrogen stimulates the endometrium and is responsible for producing endometrial hyperplasia, atypia and carcinoma. A rare case report is being presented here of Type l endometrial carcinoma-Grade 3 stage lllc associated with benign Brenner tumor of ovary in a 65 year old postmenopausal women.

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Introduction

Ovarian tumors are a major cause of mortality and morbidity in females. There are three main categories of ovarian tumors. Of the three, epithelial tumors are the most common, comprising about 60% of all the ovarian tumors. Most are classified according to their predominant pattern of differentiation as serous, mucinous, endometrioid, mixed mesodermal, clear cell and Brenner. Brenner tumors accounts to 2% of all ovarian tumors. They are type of adenofibroma in which nests of transitional epithelium grow in a fibrous stroma. Most are small and are incidental findings. About 20% occurs together with mucinous or serous cystadenoma, benign cystic teratoma or some other form of benign tumor such as struma ovarii. We present a case of incidental finding of Brenner tumor in a 65 years old female with Type l endometrial carcinoma which is a rare presentation.

Case Report

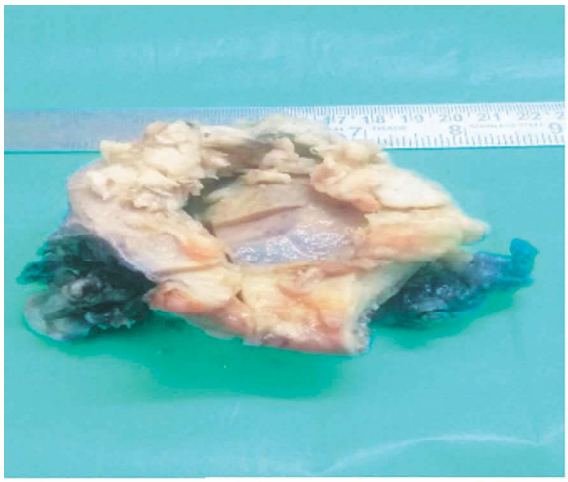
A 65 years old, postmenopausal female with no comorbidities presented with complaints of bleeding per vaginum since 6 months. On examination, cervix was flushed with vagina and high up, vulva and vagina were normal. Uterus was bulky and fornices free. CT imaging showed uterus of size 11.2x7.6x5.9 cm with thickened endometrium with a thickness of 1.5x3.2 cm. Right ovary was mildly bulky of size 4x3.5 cm and polycystic. Left ovary measured 3x2cm and found to be normal. Few small retroperitoneal nodes with largest measuring 1.7x1.4cm. Endometrial pipelle reported as nests and clusters of oval to round cells with vague glandular formation focally. Nuclear pleomorphism and hyperchromasia present.

Staging laparotomy proceeded with transabdominal hysterectomy and bilateral salpingo oopherectomy with pelvic nodes and para aortic node dissection and omental biopsy done. Specimens were received for histopathological examination in 10% formalin.

Uterus with cervix measured 11x10x3cm. Endometrial thickness was 3cm with a proliferative, exophytic growth of size 7x6x2cm which was friable and grey white. The growth did not seem to invade the myometrium grossly. One ovary measured 3x2.5x2cm, other ovary measured 4x3x2cm. Cut surface of one ovary was unremarkable. Cut surface of other ovary showed a greyish white solid homogenous area measuring 3x2x1cm. 4 lymph nodes from right parametrium largest measuring 4x2x1cm and smallest measuring 3x2x1cm were made out. 4 lymph nodes from left parametrium largest measuring 4cm in diameter and smallest measuring 1cm in diameter were made out. Single para aortic node measuring 1cm in diameter and Omental biopsy measuring 4x3x1cm were received. Cut surface showed no nodes. Microscopic examination of the uterus showed an infiltrating neoplasm arranged predominantly as solid sheets of round to oval cells.

In some foci the tumor cells are arranged as glandular spaces which are back to back with little intervening stroma. The glands are lined by tall columnar cells with stratification. The cells were exhibiting nuclear and cellular pleomorphism. The tumor is seen infiltrating into the superficial aspects of myometrium. Cervix and lower uterine segment are free from tumor infiltration. Both parametrium showed tumor infiltration. One ovary showed follicular cysts. Other ovary showed solid nests of transitional cells surrounded by fibrous stroma. Some of the nests showed cystic cavities. Microscopy of the tubes were unremarkable. Right parametrial lymph nodes showed 4 nodes, out of which one node showed metastatic carcinomatous deposits, other nodes showed reactive changes. Left parametrial lymph nodes showed 4 nodes all of which showed reactive changes. Microscopy of the para aortic nodes showed reactive changes. Omentum showed no carcinomatous deposits. A final diagnosis given as

Type 1 Endometrioid Carcinoma Grade 3 Stage lllc with metastatic carcinomatous deposits in one right parametrial lymph node and Unilateral Benign Brenner tumor.



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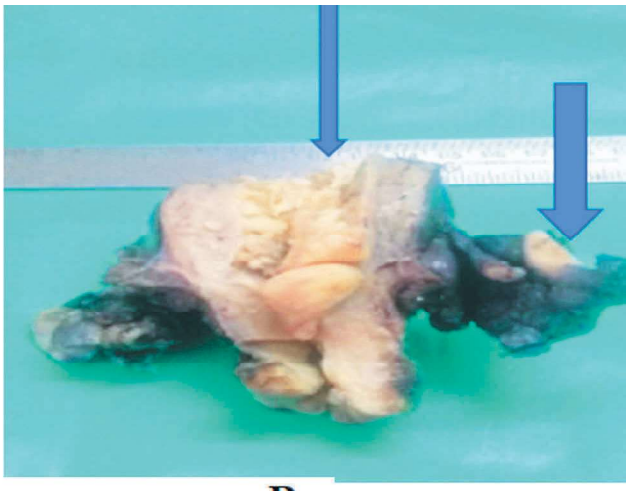

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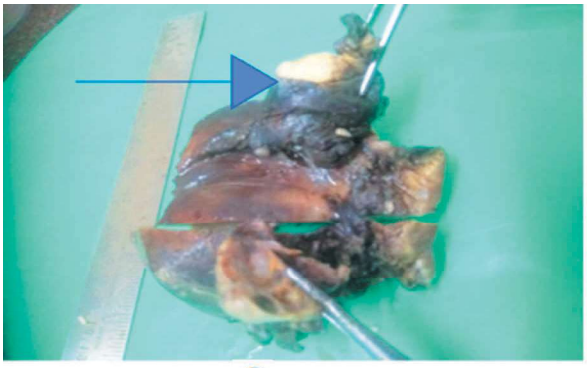
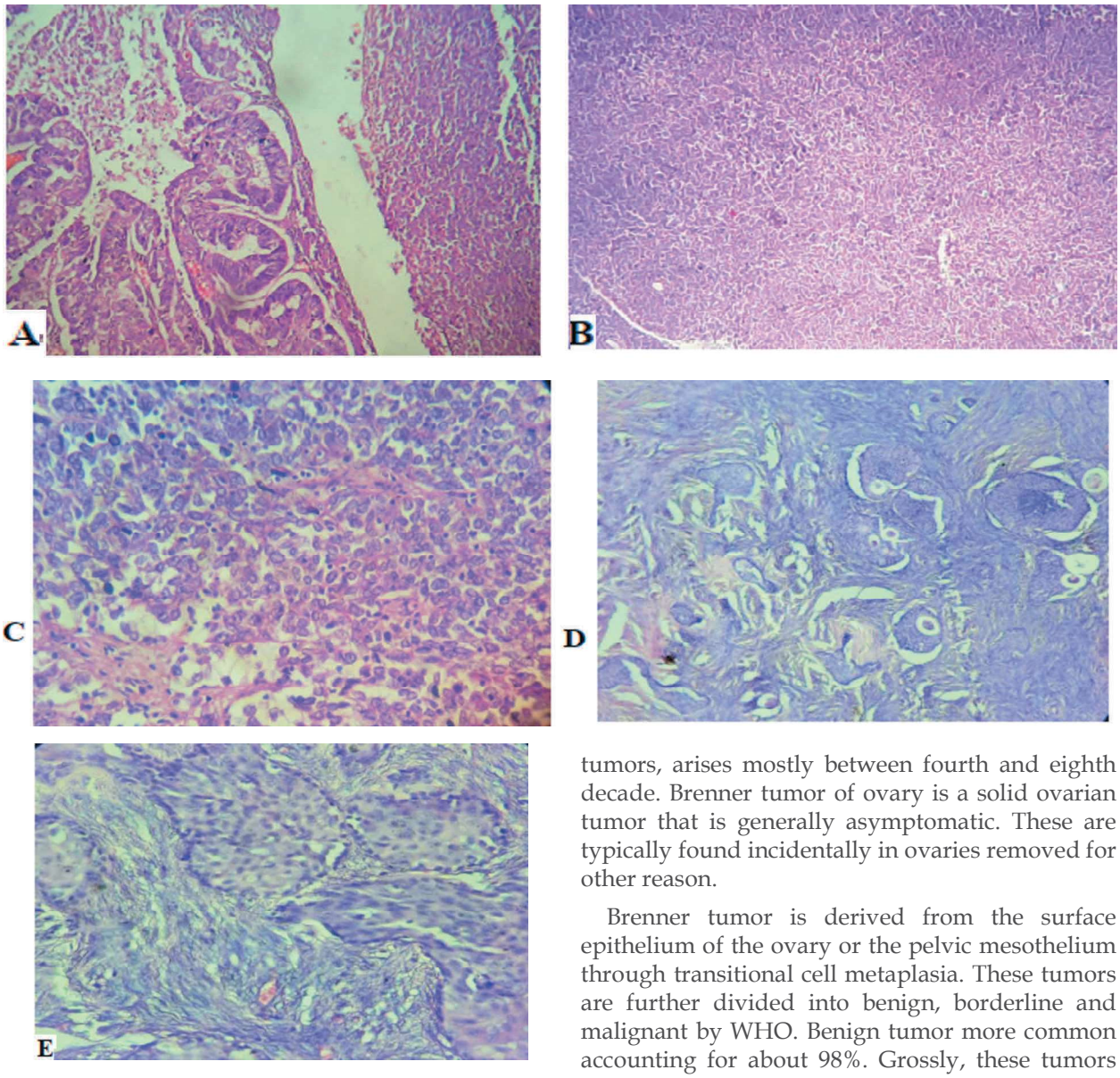


C

A. Uterus with cervix showing proliferative growth in the body of the uterus, B and C. One ovary shows grey tan mass found incidentally.

A. Image showing type 1 endometrioid carcinoma arranged in glandular pattern and solid sheets(10x) B.Solid component of malignant cells(10x) C.High power view showing pleomorphic vesicular nucleus(40x) D.Section from ovary showing nests of transitional epithelium with central cystic cavities(10x). E.High power view showing transitional epithelium with oval nucleus and nuclear grooving (40x).



Discussion

Endometrial Carcinoma is the most common invasive neoplasm of the female genital tract. Worldwide, endometrial carcinoma is the fifth most common cancer in women. Highest rates occurs in developed countries,whereas in developing countries the rates are four to five times lower.

Most common cause of endometrial carcinoma is unopposed estrogen exposure of endometrium. Endometrial carcinoma occurs in the age range from second to fifth decade. Most women are postmenopausal as in our case. The initial manifestation is abnormal vaginal bleeding.

Brenner tumor of ovary accounts for approximately 5% of benign ovarian epithelial tumors, arises mostly between fourth and eighth decade. Brenner tumor of ovary is a solid ovarian tumor that is generally asymptomatic. These are typically found incidentally in ovaries removed for other reason.

Brenner tumor is derived from the surface epithelium of the ovary or the pelvic mesothelium through transitional cell metaplasia. These tumors are further divided into benign, borderline and malignant by WHO. Benign tumor more common accounting for about 98%. Grossly, these tumors are solid, sharply circumscribed and pale yellow tan in colour measuring less than 2 cm and most of the time it is found to be unilateral.

Microscopically, Benign Brenner is characterised by oval or irregular nests of transitional type cells within a fibromatous stroma. The nests may be solid or exhibit central cavities containing mucin or eosinophilic material. The transitional type cells are polyhedral to elongated with pale to clear cytoplasm. Nuclei are ovoid with fine chromatin sometimes with longitudinal grooves.

The stromal cells are leutinised in approximately 10-15% of brenner tumor, these cells may produce steroid hormones, mainly estrogen and progesterone. Hyperstimulation of endometrium by estrogen secreted by these tumors may be responsible for endometrial hyperplasia, atypia

and carcinoma seen with brenner tumor and these patients may present with abnormal uterine bleeding.

The standard treatment for endometrial carcinoma is hysterectomy and bilateral salpingo oopherectomy. This procedure had been done in our case in addition with right and left parametrial nodes and para aortic nodes sampling.

Conclusion

Brenner tumor are most often solid neoplasms found incidentally and is frequently found in association with other epithelial neoplasms of the ovary. The occurrence of Brenner tumor with grade lll endometrial carcinoma is very rare. This case is presented here to highlight the coexistence of Endometrial Carcinoma Type l Grade lll with an Incidental Brenner Tumor which is a rare occurrence.

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