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Case Report

Serous Cystadenocarcinoma with Fibroma of left ovary and epithelial dysplasia of left fallopian tube - A Case report.

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Abstract

Collision tumors are best considered as separate primary neoplasms. These tumors have been reported in various organs, such as the esophagus, stomach, liver, thyroid gland, ovary, and lung, but they are extremely rare in the ovaries. Here we report a case of rare collision tumor of Serous cystadenocarcinoma with Fibroma of ovary and Dysplasia of fallopian tube in a 75 year old female who presented with history of pain abdomen and postmenopausal bleeding and was clinically and radiologically diagnosed as Broad ligament fibroid.

Keywords: Ovary , serous cystadenocarcinoma, fibroma.

Introduction

Collision tumor, primary neoplasm entity which can be seen in various organs such as Thyroid gland, Gastrointestinal Tract in esophagus and stomach, Liver, Lung and rarely in Ovaries. These collision tumor usually presents with two distinct histological tumor organ or types occurring at the same anatomical site without histological admixture of the same. Collision of two different tumor can occur between tumor originating in the same organ or between metastasis from other sites. [1]

Neoplasms of ovary, most common Surface epithelial stromal which has five distinct subtypes, namely- serous, mucinous, endometrioid , clear cell and transitional cell along with combination of these types.[2]

Tumors with serous differentiation represent 46% of all surface epithelial stromal ovarian neoplasms of which 70% are malignant serous tumors.[2] These are usually cystic, solid and haemorrhagic.

8% of ovarian tumors are Sex cord stromal tumors of which Fibroma predominantly seen. Fibroma are mostly benign tumors, can present at any age but more preponderance in the perimenopausal age. On histopathological specimen they are usually solid and firm. Rarely present as cystic degeneration or pseudocysts without lining epithelium. Fibromas with minor component of sex cord elements with less than 10% is termed as Fibroma with Sex cord elements, which is the rare entity.[4]

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Case History

A 75 year lady presented with post-menopausal bleeding and mass per abdomen. Post-menopausal bleeding since 5 months with scant in quantity associated with lower abdominal pain , insidious in onset , progressive , dull aching type radiating to back. Mass per abdomen since 5 months which was initially of size 5x 4 cms and gradually progressed to the present size of 10 x 8 cms. On admission the patient is poorly built and vitals were stable. Systemic examination of Respiratory system, cardiovascular system and central nervous system were not significant. On per abdominal examination a vague mass was palpable in left hypochondrium measuring 10 x 8 cms which was non mobile and non tender. The clinical diagnosis of broad ligament fibroid was made.

On complete blood count, haemoglobin was 9.30gm% and rest all parameters were within normal range. On peripheral smear Microcytic Hypochromic Anemia was given. Coagulation parameters were within normal range.

USG scan showed features suggestive of ill-defined hypoechoic lesion in left parametrium probably Broad ligament fibroid. MRI showed a well-defined, lobulated, hypodense mass likely to be arising from the left adnexa and extending to the pouch of douglas , most probably Benign lesion suggestive of broad ligament fibroid was reported [Figure 1].

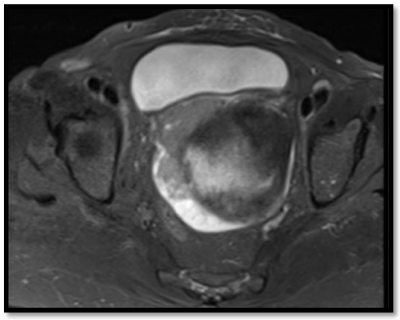

Figure 1 : MRI showed a well defined, lobulated, hypointense mass likely to be arising from the left adnexa and extending to the pouch of douglas

Patient was taken up for Hysterectomy. Resected mass was sent for frozen section and fluid collected from peritoneal cavity for cytology analysis. Frozen section of globular firm mass with cut surface showing grey white whorled appearance suggested Benign smooth muscle lesion likely to be Leiomyoma. On fluid cytology, with sparsely cellular smear chronic inflammatory process was made.

On histopathology, single globular firm mass measuring about 11 cms with external surface smooth and showed soft grey brown areas at the periphery measuring 5cms. [Figure 2 & 3] capsule identified with no breech. Cut surface revealed whorling pattern. [Figure 4] Also identified tube measuring 2cms with lumen obliterated.

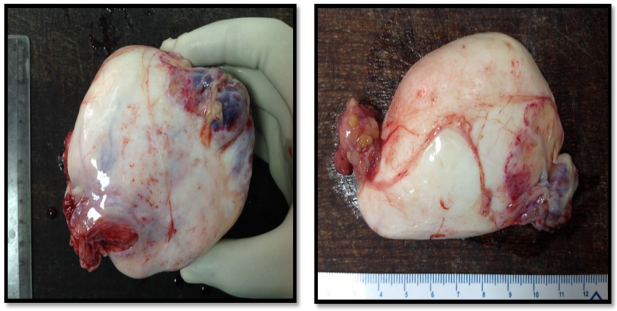

Figure 2 & 3 : Globular firm mass with external surface- Smooth, and shows soft grey brown area at the periphery.

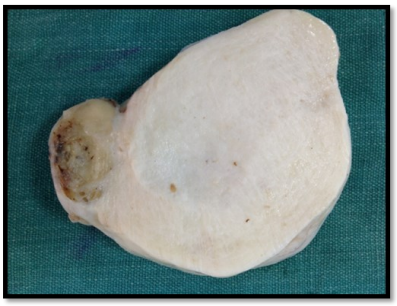

Figure 4: Cut surface with grey white whorled tumor.

On microscopic examination of globular mass showed tumor cells arranged in papillary, glandular and in solid patterns. Tumor cells are round with uniform oval nuclei and occasionally few cells showed nucleoli and nuclear atypia. Mitotic figures were present (10-12/10hpf). [figure5] Section from grey brown areas of tumor showed spindle shaped cells arranged in storiform pattern with no nuclear atypia. [Figure 6] Features were those of Serous Cystadenocarcinoma with Fibroma of left ovary. Left fallopian tube shows features of epithelial dysplasia. [Figure 7]

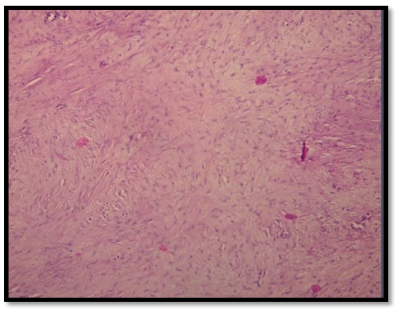

Figure 5: Section studied from grey white areas of the tumor shows spindle shaped cells arranged in storiform pattern. H&E Stain 100X

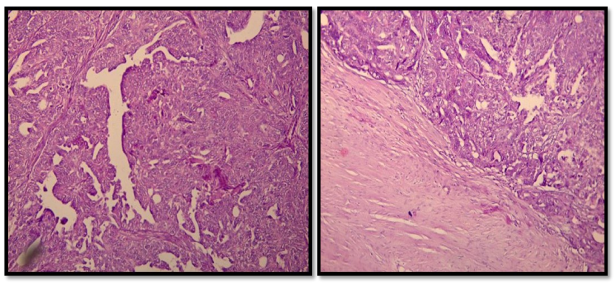

Figure 6 &7 : Section studied from the grey brown area of the tumor show cells arranged in papillary, glandular and in solid patterns. These cells are round, uniform with oval nuclei and few nucleoli. There is moderate nuclear atypia at focal areas. Mitotic figures are 10- 12/10 hpf. H&E Stain 400X

Also sent Uterus and cervix measuring 7x4x2cms with external surface unremarkable. Cut section unremarkable with endomyometrium measuring 0.6cms. On microscopic examination showed cystic glandular hyperplasia of endometrium and myometrium unremarkable. Section studied from right adnexal structures, right ovary and right fallopian tube were within normal histological limits.

Another tissue sent in a separate container consists of grey yellow fibrofatty tissue (Omentum) measuring 5.5x2.5x1cms. On multiple cuts No solid areas identified. Microscopy showed mature adipose tissue with no tumour deposits seen. No lymphnodes retrieved.

Final impression was given as Serous Cystadenocarcinoma with Fibroma of left ovary and epithelial dysplasia of left fallopian tube.

Discussion

Collision tumor are rare ovarian neoplasms representing the coexistence of two adjacent, but histologically distinct tumors with no histological admixture at the interphase. There are various hypothesis postulated to explain the pathophisiology of collision tumors. The coexistence of two primary neoplasms in same tissue is explained by "chance accidental meeting". There is another theory explaining that the presence of the first tumor alters the microenvironment of the adjoining tissue creating avenues for development of the second primary or seeding of metastatic tumor cells. The other hypothesis suggests that the origin of each primary tumor from a common stem cell. Mixed epithelial tumors or malignant mixed mesodermal tumors of ovary mostly originate from a common stem cell with capacity of multidirectional differentiation. But these tumors are characterized by intimate mixture of different neoplastic components unlike tumors where intact stroma separates different components.[5]

In ovary, most commonest histological combination of collision tumor is the coexistence of Teratoma with Mucinous tumors (Mucinous Cystadenoma or Carcinomas). The combination of serous cyst adenocarcinoma and Fibroma of ovary has not been reported before in literature. Surface epithelial – stromal tumors are the most common neoplasms of the ovary. Histogensis of these neoplasms are from the ovarian surface epithelium or its derivatives. They commonly occur in women of reproductive age group and beyond. Histomorphologically they are composed of one or more distinctive type of epithelium admixed with a variable amount of stroma. An ovarian cancer accounts about 30% of all cancers of female genital tract. In India, during the period 2004-2005, proportion of ovarian cancer varied from 1.7% to 8.7% of all female cancers according to National Cancer Registry programme (NCRP) of Indian Council Medical Research. The malignant ovarian tumors constituted 5.6% of all malignancies in women. The incidence rates of ovarian malignancies have reduced in western countries in recent years, whereas they have risen steadily in Asian countries.[6,7]

Serous cystadenocarcinomas range from not being detectable macroscopically to 20cms in diameter and are bilateral in two-thirds of all cases. Ovarian fibromas represent 4% of all ovarian neoplasms. They occur mostly during perimenopause and post menopause, the median age of about 52yrs.[5]

Fibromas are stromal tumors histologically composed of spindle, oval or round cells producing collagen. In cellular fibromas the cells are compactly packed, collagen is scanty and the mitotic rate is increased. Fibromas account for 4% of all ovarian tumors and are most common in middle age women (mean age 48). Less than 10% occur before age 30 and occasionally in children.[6]

Fibroma and Serous cystadenocarcinoma of ovary histological combination of Collision tumor has not been reported till date. Few authors have reported that the majority of serous carcinomas appear to have preinvasive lesions in the distal fallopian tube. This finding has shifted the paradigm of ovarian cancer carcinogenesis. Thus complete bilateral salpingectomy as a risk-reducing strategy in patients with BRCA mutations is an approach worthy of further investigation. Hence considering salpingectomy for all patients undergoing hysterectomy for benign diseases may help in reduction of occurrence.[4]

Conclusion

Collision tumors of ovary are often diagnosed post operatively. These tumors on CT/MRI is difficult to neither diagnosed nor differentiated. Histological combination of Serous cystadenocarcinoma and Fibroma is a rare combination and can cause Meigs or Pseudo-Meigs syndrome. Elevated serum CA-125 levels alone cannot differentiate between benign and malignant ovarian masses. Thus multidisciplinary approach for diagnosing such rare entity will help in confirming the disease.

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