

**CASE REPORT****COLLISION TUMOUR: BILATERAL MUCINOUS ADENOCARCINOMA COEXISTING WITH DERMOID CYST IN AN OVARY: AN EXTREMELY RARE CASE**

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INTRODUCTION

Collision tumour is defined as coexistence of two different tumours in the similar organ without any histological intermixing. However, collision tumors have been reported in various organs like esophagus, stomach, thyroid gland but collision tumors arising from ovaries are extremely rare entities [1,2]. Coexistence of tumors with different histologic combinations has been reported in the literature for the ovary, such as serous papillary cystadenocarcinoma and granulosa cell tumor, serous adenocarcinoma and steroid cell tumor, and teratoma with granulosa cell tumor [3,4,5]. However, ovarian collision tumors are most commonly composed of teratoma and cystadenoma or cystadenocarcinoma [6]. Benign mucinous cystadenomas account for 80% of mucinous ovarian tumors and 20-25% of overall benign ovarian tumors [7]. Dermoid cyst is a type of germ cell tumor comprising well-differentiated tissues and three germ cell layers: ectoderm, mesoderm, and endoderm, which is also known as mature cystic teratoma [8]. These tumors are characterized as generally slow-growing and unilateral, with a reported bilateral incidence of 10% [9]. Multiple dermoid cysts within a single ovary are rare. The juxtaposition with dermoid cysts has been reported as comprising approximately 5% of benign mucinous ovarian tumors and rare examples of proliferating mucinous tumors [10].

The case is here reported of a rare collision tumor consisting of mucinous adenocarcinoma with dermoid cyst in same ovary.

Case report

We present a case report of 45 years female patient who presented in surgery dept of our institute with complain of pelvic pain and sensation of fullness in lower abdomen. Patient underwent bilateral salpingo-oophrectomy, hysterectomy and omentectomy.

PATHOLOGICAL FINDINGS

Gross findings- Specimen was received as uterocervix with bilateral adnexa and piece of omentum. Both fallopian tube were measuring 4 cm. and both ovaries were cut open. Left ovary measured 8×5×4 cm, had cut surface showed solid creamish-white with areas of hemorrhages. Right ovary appeared bilobed (**8-shaped**) upper lobe measuring 6×5×4 cm and its cut surface showed solid, creamish-white with hemorrhagic areas. While lower lobe was cystic measuring 6×5×5 cm, had tuft of hairs, tooth and bony hard cartilaginous structure. An intramural fibroid was present in the uterus. Cervix and both tubes were grossly unremarkable. [Fig.- 1,2]

Microscopic findings

Standard pieces were taken from representative areas and slides were stained with H & E stain. Solid areas of both ovaries showed acini lined by tall columnar cells having pleomorphic nuclei with stratification, prominent nucleoli and hyperchromatism. Plenty of intracellular mucin was also present. Section of lower cystic lobe of right ovary showed cyst wall lined by stratified squamous epithelium with skin appendages, adipose tissue and cartilaginous area also seen. Immature teratoma component was not seen. Metastatic foci were seen in omentum. Uterocervix was free from tumour. The final diagnosis of mucinous adenocarcinoma in both ovaries coexistent with dermoid cyst in right ovary with an intramural fibroid in uterus was made. [Fig.3-8]

DISCUSSION

We present this case because collision tumors in ovary are a rare entity and combination of mucinousadenocarcinoma with teratoma is rare. very few case reports are present in literature. There are instances of collision tumors consisting of teratoma with serous cystadenocarcinoma, mucinous cystadenocarcinoma and/or granulosa cell tumor. [3] In a study conducted at Seoul national University college of medicine, the authors reviewed seven pathologically proven cases of collision tumors of ovary associated with teratoma. Ovarian teratomas were co-existent with mucinous cystadenoma (4 cases), borderline mucinous tumor (1 case), mucinous cystadenocarcinoma (1 case) and dysgerminoma (1 case). [4] There is a single case report of collision tumor composed of a colonic adenocarcinoma arising in a sigmoid diverticulosis coexisting with recurrent ovarian granulosa cell tumor. [5].

Management can be conservative or surgical depending on the size, gestational age, available resources, and possibly patient preference following careful evaluation. For those masses suspicious of malignancy, at risk of torsion, rupture, or clinically symptomatic, surgical treatment is warranted. [10]

CONCLUSION

Ovarian collision tumors are rare, but even rarer are the coexistence with other malignant ovarian tumors, like above mentioned case. Support of the pathologist to perform a careful and detailed examination of the excised mass may be very crucial, so he must be aware of existence of such rare collision tumours. Correct diagnosis of the component of tumour for subsequent treatment may be life saving and can add years to life.



Fig 1- Specimen of uterocervix with bilateral salpingoophorectomy



Fig.2- Cut surface of right bilobed (**8-shaped**) ovary showing dermoid cyst having tuft of hairs and tooth and solid creamish- white upper lobe.

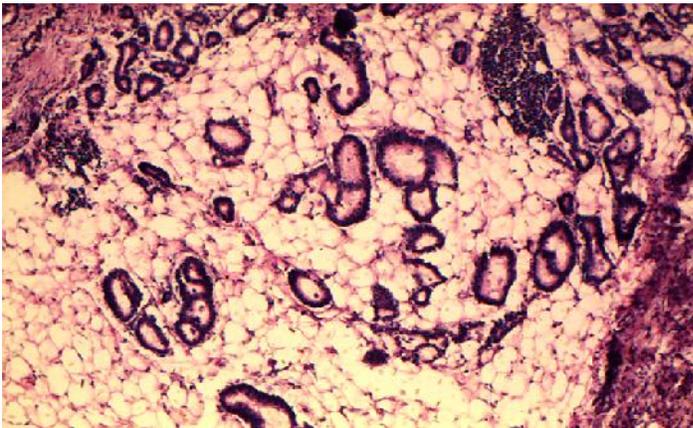


Fig 3- Hematoxyline & Eosin stained section of mucinous adenocarcinoma showing acini lined by tall columnar cells and surrounding abundant mucin (H & E 10X)

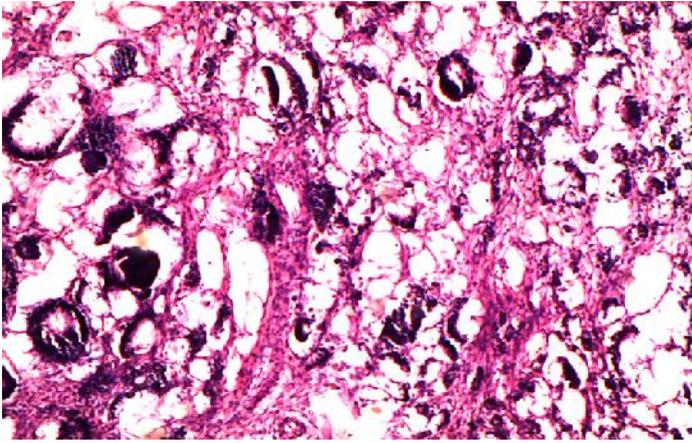


Fig 4-Section of mucinous adenocarcinoma showing tall columnar cells of acini having pleomorphic nuclei with stratification and hyperchromatism (H & E 40X).

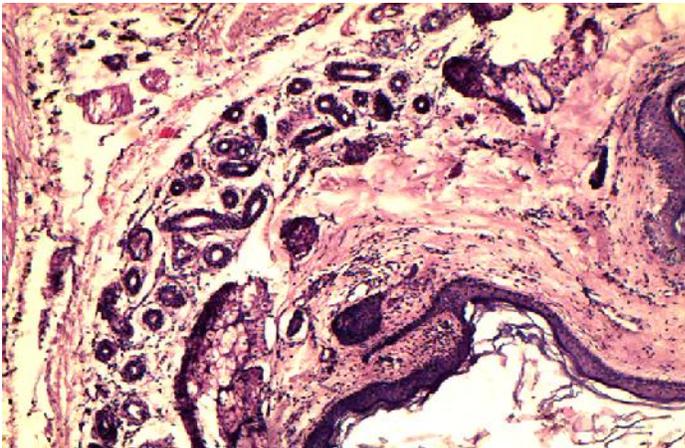


Fig 5- Section of dermoid cyst showing stratified squamous epithelium and glands (H & E 10X)

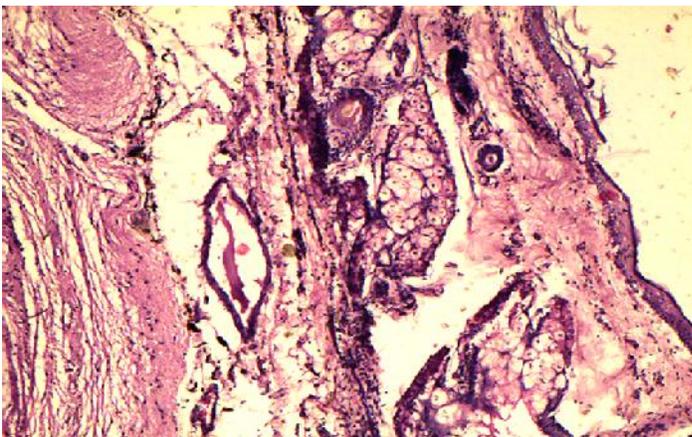


Fig 6- Section of dermoid cyst showing various skin appendages- hair follicles, sebaceous glands and fibrocollagenous tissues (H & E 40X)

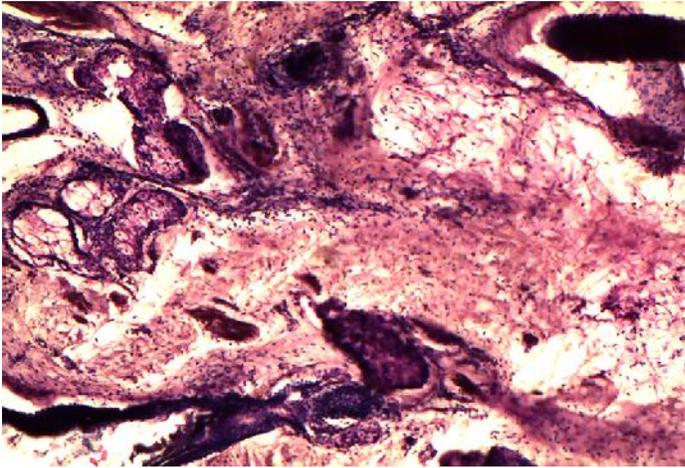


Fig 7- Section of dermoid cyst showing various skin appendages with mucin (H & E 40X)

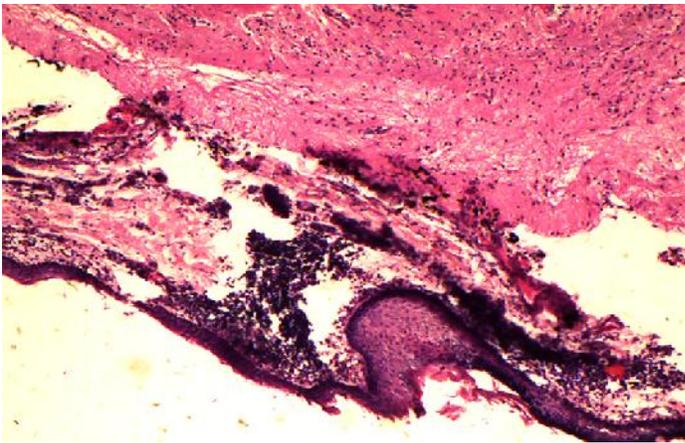


Fig 8-Section of dermoid cyst showing stratified squamous epithelium and hemorrhagic areas(H & E 40X)

REFERENCES

1. Bige O, Demir A, Koyuncuoglu M , Secil M, Ulukus C, Saygili U; Collision tumor: serous cystadenocarcinoma and dermoid cyst in the same ovary. Arch Gynecol Obstet 2009;279:767-70
2. Singh AK, Singh M. Collision Tumours of Ovary: A Very Rare Case Series. J Clin Diagn Res 2014;8:FD14-6.
3. Ozbey C, Erdogan G, Pestereli HE, Simsek T, Karaveli S. Serous papillary adenocarcinoma and adult granulosa cell tumor in the same ovary. An unusual case. APMIS 2005;113:713-5.
4. Nirenberg A, Ostör AG, Quinn MA; Collision tumor: serous adenocarcinoma and steroid cell tumor of the ovary. Pathology 1992;24:60-2.
5. Moid FY, Jones RV; Granulosa cell tumor and mucinous cystadenoma arising in a mature cystic teratoma of the ovary: A unique case report and review of literature. Ann Diagn Pathol 2004;8: 96-101.
6. Papaziogas B, Souparis A, Grigoriou M, Tsiaousis P, Kogia E, Panagiotopoulou K, et al.; A Rare Triple Coexistence of a Collision Tumor, a Benign Mature Cystic Teratoma and a Hemorrhagic Follicular Cyst of The Ovaries. Int J Surg 2007; 14:1-5

7. Brown J, Frumovitz M (2014) Mucinous tumors of the ovary: current thoughts on diagnosis and management. *Curr Oncol Rep* 16: 389
8. Kim MJ, Kim NY, Lee DY, Yoon BK, Choi D (2011) Clinical characteristics of ovarian teratoma: age-focused retrospective analysis of 580 cases. *Am J Obstet Gynecol* 205: 32
9. Caspi B, Appelman Z, Rabinerson D, Zalel Y, Tulandi T, et al. (1997) The growth pattern of ovarian dermoid cysts: a prospective study in premenopausal and postmenopausal women. *Fertil Steril* 68: 501-505.
10. Ueda G, Fujita M, Ogawa H, Sawada M, Inoue M, et al. (1993) Adenocarcinoma in a benign cystic teratoma of the ovary: report of a case with a long survival period. *Gynecol Oncol* 48: 259-263
11. Farah Y MOID, Robert V Jones. Granulosa cell tumour and mucinous cystadenoma arising in mature cystic teratoma of the ovary: a unique case report and review of literature. *Annals of Diagnostic pathology* 2004 8:96–101.
12. Seung Hyup Kim, Young Jun Kin, Byung Kwan Park, Jheong Yeon cho, Bo Hyun Kim et al. Collision tumour of ovary associated with Teratoma –clues to the correct preoperative diagnosis. *Journal of computer assisted tomography* 1999 23:929–33.
13. Brahmania M, Kanthan C S, Kanthan R. Collision tumour of the coloncolonic adenocarcinoma and ovarian granulosa cell tumour. *World J Surg Oncol* 2007 5:118
14. Yakasai IA, Bappa LA. Diagnosis and management of adnexal masses in pregnancy. *J Surg Tech Case Rep*. 2012; 4 (2): 79–85