

CASE REPORT

Collision ovarian tumor: a rare case report

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ABSTRACT

A 21years old unmarried nulligravida patient was presented with complaints of pain and feeling a lump in abdomen. Per abdominal examination showed a lump of about 10 x 10 cm in right side of lower abdomen. Ultrasound was done and suggestive of complex right ovarian cyst of 12x 10x 9 cm. MRI was advised which suggestive of complex right ovarian cyst with multiple loculi having different echoes in their contents. Laparoscopic ovarian cystectomy was performed. Cyst contents were aspirated after puncturing cyst and the walls were enucleated and sent for histopathological evaluation (HPE). HPE reports confirmed the nature of cyst as collision tumor having endometrioma and mucinous cyst in the same ovary without any admixture of both histologies. The therapeutic mapping is strongly accompanied with the age and fertility preservation of the patient.

Keywords: Laparoscopy, cystectomy, histopathology, collision tumor, endometrioma, mucinous cyst.

Collision/compound tumor is a rare entity where two histologically different tumors lie adjacent to each other in the single organ without intermixing of tissue or cell types. According to current bibliography, collision tumors are commonly noted in organs like oesophagus, stomach, lung, liver, kidney and very rarely it is seen in ovary^{1,2}. They have been observed for benign-benign, benign-malignant and malignant-malignant tumors. There are few reported cases describing the ovarian type. Here we present our case report on this rare collision ovarian tumor managed laparoscopically and diagnosis suspected on ultrasonography (USG) was confirmed on histopathology of the cyst walls enucleated there. Special emphasis was given on fertility preservation of the patient as per her age profile.

Case

A 21years old unmarried nulligravida patient was presented in our OPD with complaints of pain and feeling a lump in abdomen. Her per abdominal examination showed a

lump of about 10 x 10 cm in right side of lower abdomen seemed to be arising from pelvis, smooth, spherical, mobile separate from abdominal wall without any inflammatory signs on overlying skin. Ultrasound was suggestive of complex right ovarian cyst of 12x 10x 9 cm with multiple loculi (endometrial cyst /dermoid cyst).

To exclude malignant nature, tumor markers like CA-125, CEA, HCG levels, LDH were done and found within normal reference levels. MRI was advised for further evaluation where it was suggestive of complex right ovarian cyst with multiple loculi having different echoes in their contents. Laparoscopic ovarian cystectomy was planned and performed. Cyst contents (chocolate like tarry material in some locules and mucinous fluid in some) were aspirated after puncturing cyst and the walls were enucleated and sent for HPE (Figure 1).

Histopathology reports confirmed the nature of cyst as collision tumor having endometrioma and mucinous cystin

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the same ovary without any admixture of both histologies (Figure 2). Serum AMH levels were done before and after surgery to see the effects of surgery on ovarian reserve and fertility, both the levels were found in normal range.

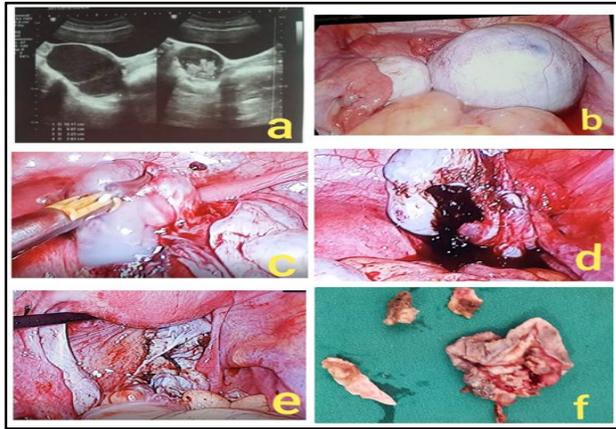


Figure 1: a) Ultrasonography showing complex right ovarian cyst of 12x 10x 9 cm with multiple loculi? endometrial cyst? dermoid cyst, b) Laparoscopic view right ovarian cyst, left ovary normal, c) Mucoïd secretion coming out of some loculi of ovarian cyst, d) Chocolatey tarry secretion coming out of other loculi of cyst, e) Final view after aspirating and enucleating the cyst, f) The enucleated cyst walls sent for HPE.

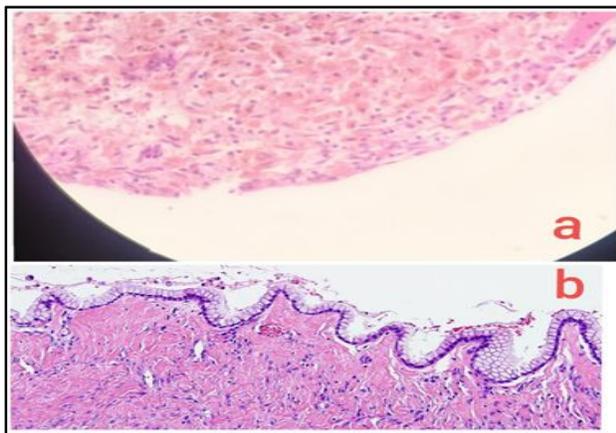


Figure 2: Histopathology of cyst walls - a) One locule of cyst had hemosiderin laden cells (macrophages) in its wall s/o endometrioma, b) Other septa had mucin laden cells s/o mucinous cyst

Discussion

This report presented a case of collision tumor in the same ovary in young unmarried nulligravida patient. There

are a few studies in the literature on the simultaneous occurrence of two ovarian histopathologic findings in a same ovary of a patient or the ovaries of a same patient^{3, 4}. Collision tumors are uncommon neoplasms in which elements of differing histologic origins coexist in a single mass without intermixing of cells at junction⁵. The previously published case studies^{6,7}, reported clinical manifestations of abdominal swelling, palpable mass, abdominal pain, pelvic pain and abnormal uterine bleeding while less frequently they represent an accidental finding. Our case was presented with the abdominal pain and feeling a lump in abdomen. Ultrasound examination is the most useful non-invasive diagnostic test⁸ which was carried out and suggested complex right ovarian cyst of 12x 10x 9 cm with multiple loculi? endometrial cyst? dermoid cyst. To predict benign vs. malignant lesion various tumor markers like CA-125, CEA, HCG levels, LDH were done and found within normal reference levels. The MRI finding revealed complex right ovarian cyst with multiple loculi having different echoes in their contents. The identification of collision tumors by radiological examinations is essential to ensure that comprehensive biopsies are performed to guide appropriate treatments. In accordance with their histologic origins and collision patterns, each type of ovarian collision tumors presents specific CT/MRI features. Knowledge of the imaging features of ovarian collision tumors is crucial to aid preoperative diagnostic accuracy⁵.

The most common constituents of collision combination found in the ovary are teratoma and mucinous cystadenoma. In our case, histological collision tumor of ovary comprised mucinous cystadenoma and endometrioma in the same ovary without any admixture of both histologies.

The ovarian teratomas are the most common germ cell neoplasms and also the most common excised ovarian neoplasms in patient younger than 20 years. The most common of these tumors are the benign mature cystic teratomas, also known as dermoid cysts, representing 12% - 15% of the ovarian tumors⁹. Mucinous cystadenoma of the ovary comprises approximately 80% of mucinous ovarian tumors and 20–25% of all benign ovarian tumors¹⁰. Endometriomas are a localized form of endometriosis within the ovary which also known as chocolate cysts or endometriotic cysts. Although their exact prevalence and incidence are not known, they have been reported in 17–44% of women with endometriosis¹¹.

Laparoscopy has become an accepted method of management for ovarian cysts and its role is expanding,

offering distinct advantages of reduced operating time, blood loss, hospital stay, lower morbidity, improved postoperative recovery, and reduced cost¹². A concern with laparoscopic treatment of adnexal masses is tumor spillage. In case of ovarian carcinoma, several series have been revealed in past on the prognostic significance of tumor spillage. In our case laparoscopic cystectomy could be done with ease. Because mucinous tumors are usually benign and multilocular so their management in young patients (ensuring the ovarian reserve preservation) is challenging, especially in the case of recurrence. However, the operative laparoscopy for management and evaluation of adnexal masses, when performed by a surgeon trained in advanced laparoscopic techniques, is safe and effective and associated with less morbidity compared with open techniques.

Either cystectomy or drainage and ablation of the cyst wall can be done to manage ovarian endometriomas. But laparoscopic cystectomy provides more favourable outcomes as regards the recurrence of endometriomas and subsequent clinical pregnancy rate when compared with drainage and ablation. More frustrating, recurrence rate is very high up to 30%, this may be due to one or more of the following; de novo lesion, the regrowth of residual cells not removed during surgery or the growth of microscopic lesions unidentified at surgery. The serum AMH measurement, AFC and the number of recruited follicles in response to ovarian stimulation tests has been used to evaluate the effect of endometrioma removal on ovarian reserve¹³. Similarly, in the present case serum AMH measurement were done before and after surgery to see the effects of surgery on ovarian reserve and fertility, which were found normal.

The histopathologic origin of collision tumors still remains a controversial issue. The differential diagnosis between collision tumor and true mixed tumor can be more difficult with appearance of transitional zone between the tumors¹⁴. Moreover, a majority of collision tumors are diagnosed postoperatively on histopathology although radiology may provide a clue¹⁵.

Conclusion

This study was a collision tumor case consisting of endometrioma and mucinous cystadenoma of the right ovary. Although, each of these cystic pathologies is commonly managed by laparoscopic approach, their coexistence together is rare. The type of ovarian tumor or cyst is of paramount importance concerning the ovarian reserve. Sometimes, While large or bilateral dermoid cysts do not significantly alter the ovarian reservoir, and even a small

endometriotic implant could jeopardize the future fertility of a woman. Thus the therapeutic mapping is strongly accompanied with the age and the fertility preservation of the patient.

Conflict of interest: None. **Disclaimer:** Nil.

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