Case Report

A Rare Case Report of Serous Cystadenoma with Coexisting Sclerosing Stromal Tumor of Ovary

Lachit Kalita, Abhijit Kalita, Munmun Harlalka

Department of Pathology, Barpeta Cancer Centre, Assam Cancer Care, Barpeta , Assam.

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***Corresponding Author**:*
Dr Lachit Kalita
munu1234.lk@gmail.com

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Abstract

Various forms of collision tumors have been reported in literature before. Ovarian tumors also exhibit different histological components at times. The epithelial neoplasm of ovary in coexistence with sertoli leydig cell tumor, granulosa cell tumor, cystic teratoma and stromal tumor with minor sex cord elements are known to exist. However, literature related to association of serous neoplasm of ovary with sclerosing stromal tumor is not known. We report a case of serous cystadenoma with coexisting sclerosing stromal tumor in a 31-year-old lady which is probably one of the first case reports of such a combination till date.

Keywords:

Ovarian epithelial neoplasms, serous cystadenoma, sclerosing stromal tumor

Introduction

A collision tumor is the coexistence of two distinct tumors without any histological intermixing in the same organ or tissue. Though these types of tumors are often seen in various organs, their occurrence in the ovary is rare [1]. The present case is one such combination of different components in the ovary.

Sclerosing stromal tumor is a distinctive benign ovarian stromal neoplasm of unknown etiology and histogenesis [2] which was first described in 1973 by Scully and Chalvardjian [3]. They put up several features about this group of neoplasm that are atypical for the usual appearances of fibroma-thecoma group. Sclerosing stromal tumor is usually found in young women in the second and third decade of life and it constitutes approximately 6% of the tumors that are derived from the stroma of ovary [4-7]. It is

rarely associated with evidence of estrogen and/or androgen secretion. It is usually unilateral and circumscribed, and recurrence is not common.

Serous cystadenoma of ovary represents 16% of all ovarian epithelial neoplasm. It is a benign entity, accounting for approximately two-thirds of benign ovarian epithelial tumors and occurs in adult women of all ages with reported mean ages differing from 40-60 years [8]. It is believed to arise from precursors derived from the ovarian surface epithelium or fimbriae.

Ovarian serous tumors, coexisting with germ cell tumor, sex cord stromal tumor and granulosa cell tumor have been reported [9]. However, serous cystadenoma coexisting with a sclerosing stromal tumor of ovary has not been reported in the literature before.

Case Report

A 31 year old lady presented with an ovarian mass under evaluation. CT abdomen and pelvis showed a mass lesion measuring 9.4x6.8x6.8 cm in pelvic cavity lying in close relation and inferior to cystic lesion arising from the right ovary measuring 14x10x11 cm,with homogeneous fluid within the cyst. The serum CA-125 levels were mildly elevated. There was no history of virilization or menstrual irregularities. Salpingo-oophorectomy was done and the intra-operative frozen sections were studied and reported as benign epithelial-stromal tumor.

On gross examination, the ovary measured 19x10x7.5 cm with intact external surface. It had two distinct parts - a large cystic component measuring 12x10x7.5 cm and a solid component measuring 7x4x2.5cms attached to the cystic part. On opening the cystic part, serous fluid was drained out and it was found to be uniloculated. The solid component was variegated with patchy white-yellow areas along with areas of hemorrhage and calcification (Figure 1). No continuity was noted in the solid and the cystic component.

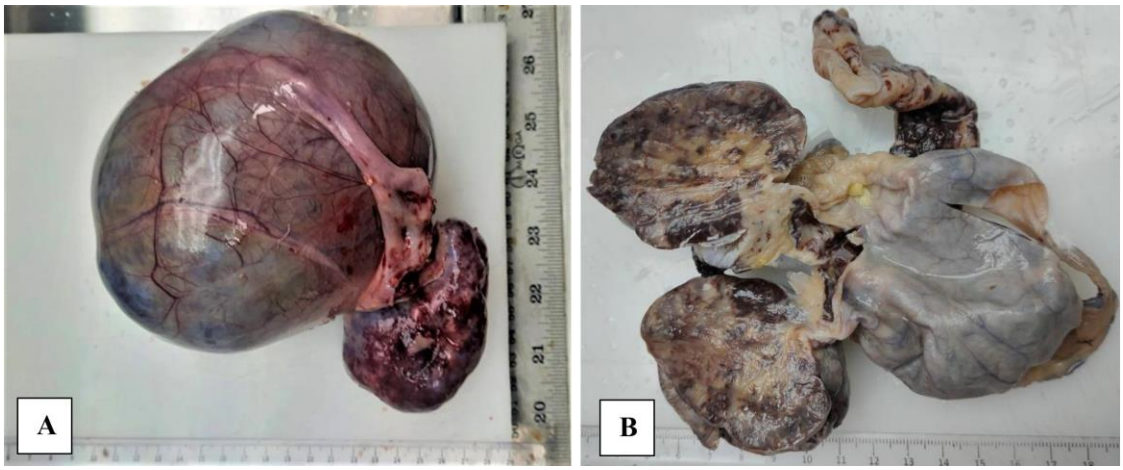

Figure 1 Gross morphology of the ovarian tumor with a large unilocular cystic component and a smaller variegated solid component. Clear demarcation between the solid and cystic components can be made out in (B).

On microscopic examination, the cystic area is lined by single layer of tall, columnar, ciliated epithelium without atypia. There was no epithelial proliferation/ stratification (Figure2) The solid area showed cellular pseudolobules and alternate oedamatous hypocellular areas with interspersed thin dilated and branching vessels. The cellular areas were composed of bland epithelioid cells with eosinophilic to clear cytoplasm and spindled cells with elongated nuclei, fine nuclear chromatin and scant eosinophilic cytoplasm (Figure 3). As in the gross examination, there was no association/ overlapping of the solid area with the cystic

component.

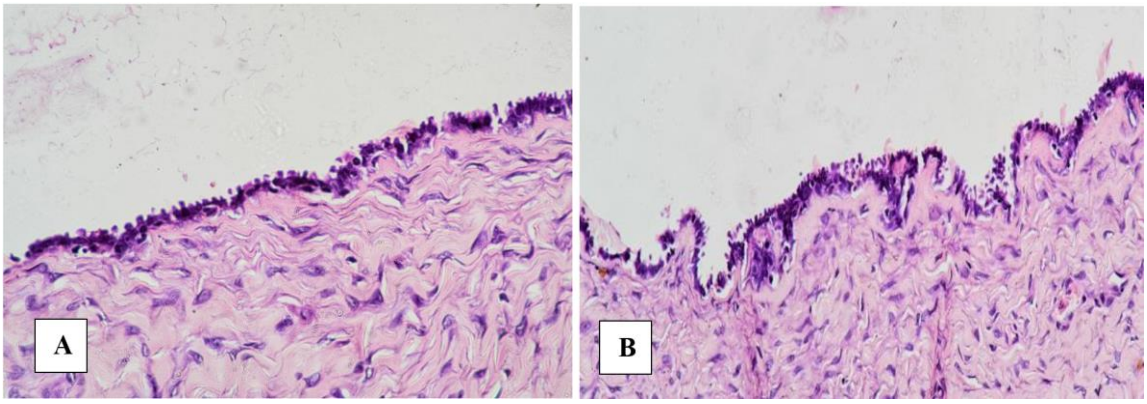

Figure 2 Photomicrograph from the cystic part of the ovary showing single layer of serous (tall, columnar, ciliated) epithelium without atypia.

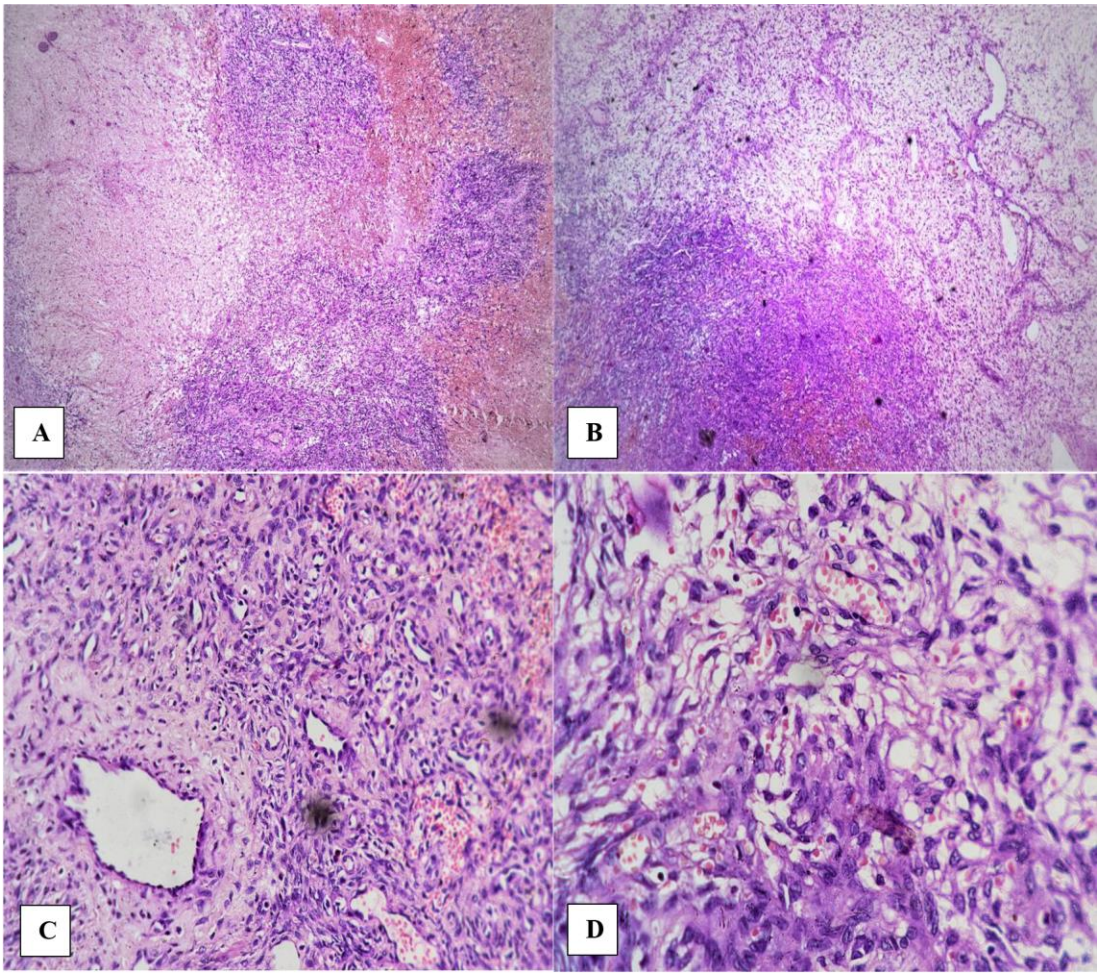

Figure 3 Photomicrograph of the solid component at low power (A and B) showing the distinct cellular pseudolobules and alternate oedamatous hypocellular areas. The high power (C and D) of the cellular areas showing bland epithelioid and spindled cells.

Discussion

There are various hypotheses for the formation of collision tumors: 1. Simultaneous proliferation of two different cell lines, 2. Common origin from a pluripotent stem cell, 3. The presence of one tumor altering the microenvironment which leads to the development of the second primary tumor, 4. A carcinogenic agent interacting with different tissues and inducing different tumors [1]. A knowledge of the existence of different types of collision tumors would, thereby, help in understanding the underlying biology for their occurrence.

The Ovarian epithelial and stromal neoplasm are two different groups of ovarian neoplasm described by the World Health Organisation Classification of tumors. The surface epithelial tumors are the most common ovarian neoplasm, whereas sex cord stromal tumors are relatively less common. There are reported cases of coexistence of epithelial tumors with stromal tumor or germ cell tumors. Various other combinations of collision tumors of the ovary are also known. Jayalakshmy et al. has reported a case of ovarian fibroma with serous cystadenoma [10], Yang et al. described a mucinous cystadenoma co-existing with stromal tumor with minor sex cord elements [11], Bachhav AA described serous cystadenoma with coexisting stromal tumor with sex cord stromal elements [12], Ajay Kr. et al. described a collision tumor of mucinous cystadenoma with teratoma and serous papillary cystadenoma with teratoma [13]. However, there was not much literature available regarding the coexistence of serous cystadenoma and sclerosing stromal tumor. Sometimes, cystic degeneration of the stromal tumor can occur, but in such a case, the cyst is devoid of an epithelial lining. In the present case report, both components are distinct and separate, on gross as well as in microscopic examination. The intra-operative frozen section study may not be contributory in many instances in these collision tumors considering the time limitations and the limited amount of tissue that could be studied. It is, therefore, important to be aware of the various combinations and coexistence of different tumors in the ovary.

Conclusion

The present case report shows a collision tumor consisting of two benign components, both solid and cystic, which, on pre-operative radiological evaluation, may raise suspicion of malignancy. The intra-operative frozen section may also be non-conclusive in certain instances. The aim of our case report is to bring awareness about these morphological coexistences in a single site.

References

1. Sujithra S, Rani U, Sundaram S, Sundaram S, Rajendiran S, Susruthan M. Ovarian Collision Tumors. J South Asian Feder Obst Gynae 2020;12(5):331–334
2. Shaw JA, Dabbs DJ, Geisinger KR. Sclerosing stromal tumor of the ovary: an ultrastructural and immunohistochemical analysis with histogenetic considerations. Ultrastructural Pathology. 1992 Jan 1;16(3):363-77.
3. Chalvardjian A, Scully RE. Sclerosing stromal tumors of the ovary. Cancer. 1973 Mar;31(3):664-70.
4. Hsu C, Ma L, Mak L. Sclerosing stromal tumor of the ovary: case report and review of the literature. International journal of gynecological pathology. 1983 May 1;2(2):192-200.
5. Quinn MA, Oster AO, Fortune D, Hudson B. Sclerosing stromal tumour of the ovary case report with endocrine studies. BJOG: An International Journal of Obstetrics & Gynaecology. 1981 May;88(5):555-8.
6. Tsukamoto N, Nakamura M, Ishikawa H. Sclerosing stromal tumor of the ovary. Gynecologic Oncology. 1976 Sep 1;4(3):335-9.
7. Tiltman AJ. Sclerosing stromal tumor of the ovary. Int J Gynecol Pathol. 1985;4:362-69.

8. Seidman JD, Mehrotra A. Benign ovarian serous tumors: a re-evaluation and proposed reclassification of serous "cystadenomas" and "cystadenofibromas". Gynecologic oncology. 2005 Feb 1;96(2):395-401.
9. Russel, P. (1994) Surface epithelial stromal-tumors of the ovary. In: Kurman, R.J., Ed., Blaustein's Pathology of the Female Genital Tract, 4th Edition, Spinger-Verlag, New York, 724.
10. Jayalakshmy PS, Poothiode U, Krishna G, Jayalakshmy PL. Ovarian fibroma with serous cystadenoma—an unusual combination: a case report. Case reports in Obstetrics and Gynecology. 2012 Jan 1;2012.
11. Yang SW, Cho MY, Jung SH, Lee KG, Cha DS, Kim KR. Mucinous cystadenoma coexisting with stromal tumor with minor sex-cord elements of the ovary: a case report. Journal of Korean medical science. 2001 Apr 1;16(2):237-40.
12. Bachhav AA. Serous cystadenoma with co-existing stromal tumor with sex-cord stromal elements: An extremely rare tumor. Open Journal of Obstetrics and Gynecology. 2014 Feb 21;2014.
13. Singh AK, Singh M. Collision tumours of ovary: a very rare case series. Journal of clinical and diagnostic research: JCDR. 2014 Nov;8(11):FD14.