



A Collision between Fibroma and Serous Ovarian Cystadenoma Mimicking Carcinoma

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Abstract

Collision tumors represent a coexistence of two adjacent but histologically distinct tumors without histologic admixture in an organ.

Ovarian fibroma is the most common benign stromal tumor. Serous tumors of the ovary are the most common of epithelial tumors. However, a collision between them is a rare pathology mimicking a malignant tumor. We report a 63-year-old woman with sparse postmenopausal bleeding. Ultrasound examination of organs in a small pelvis rounded right ovary formation with hypo and hyperdense sections. Paraclinical: CA125 slightly increased. Histological: collision between two benign ovarian tumors imitating carcinoma.

Keywords

collision tumor, fibroma, ovarian tumor, serous cystadenoma

INTRODUCTION

Collision tumors are rarely occurring neoplasms characterized by histologically different tumors developing in close proximity in an organ from two divergent lineages.¹ Fibroma is the most common stromal tumor of the ovary. Its incidence is 1 to 5% of all ovarian tumors.² In most cases, it is asymptomatic because of the small size, but in sizes over 5 cm in diameter it may cause abdominal pain and swelling, urinary distress, ascites, and Meigs syndrome.² Tumors with serous differentiation are 46% of all surface epithelial-stromal ovarian neoplasms of which 50% are benign serous tumors. These are usually cystic and have thin walls and lack solid areas. A few papillary excrescences may be present.³ I report a rare collision between two benign tumors - solid and cystic, fibroma and serous cystadenoma of the ovary. This collision between two benign tumors is a diagnostic challenge imitating a malignant ovarian tumor.

CASE REPORT

A 63-year-old woman presented with a 3-month history of sparse postmenopausal vaginal bleeding (PMB). She did not report receiving a hormonal therapy.

Gynecological status: soft, not painful abdomen, no tumor formation, no free fluid in the abdominal cavity. The patient's cervix had an atrophic porcio, there was no changes in the uterine body.

Paraclinical tests: blood smear and biochemistry were within normal limits. Serum CA-125 level was slightly increased (39.70 U/ml).

Ultrasound transvaginal test: rounded lesion 5 cm in diameter with hypo and hyperdense section to the left ovary. Corpus uteri and left adnexa with normal parameters.

Surgically, it was a rounded left ovary tumor with a cystic and solid parts. Uterus, left ovary and fallopian tubes were normal. Cavum Douglassi, omentum, intestinal surface,

peritoneum, and abdominal organs showed no pathological changes. Lymph nodes, including retroperitoneal, were not increased. Total hysterectomy, salpingo-oophorectomy with a part of omentum was performed. Sent for histological examination. The patient was diagnosed and operated on at the Parvoday hospital for active treatment. There were no post-surgical complications.

Macroscopically: two containers have been shipped. First: uterus, fallopian tubes and right ovary with atrophic changes. A small stretch of omentum without pathology. Second (**Fig. 1**): a separate left ovary tumor with a smooth surface composed of a greyish-brown cystic formation with a diameter of 5 cm with a smooth inner wall and a compact nodule formation 2 cm in diameter with a uniform whitish cut surface. At the other pole of the cyst, a small section of the atrophic ovary was found.

Histology (H&E) (Fig. 2): The solid tumor component has a smooth contour and places with a well-visible capsule (**Fig. 2a**). It consisted of fibrocytes and single fibroblasts located between collagen fibers. Cell nuclei were thin and spindly with scarce cytoplasm. The mature connective tissue cells were stacked in bundles, intertwined in places. The intercellular substance was represented by collagen fibers (**Fig. 2b**). The cystic part was made up of a thin fibrous wall cushioned inside with a cubic/flattened epithelium (**Fig. 2c**). The epithelium was also observed under the solid part (**Fig. 2d**), indicating that this was not a cystic degeneration of the fibroma. In the cyst wall, there was an atrophic ovary with a corpus albicans (**Fig. 2e**).

Cervix – atrophic exocervical epithelium, corpus uteri with atrophic endometrium and myometrium with adenomyosis. The fallopian tubes with fibrous changes and paratubal cysts, right ovary with corpus albicans and a small part with endometriosis.



Figure 1. Macroscopic picture: serous cystadenoma and fibroma. Next to it, atrophic ovary in the wall of serous cystadenoma.

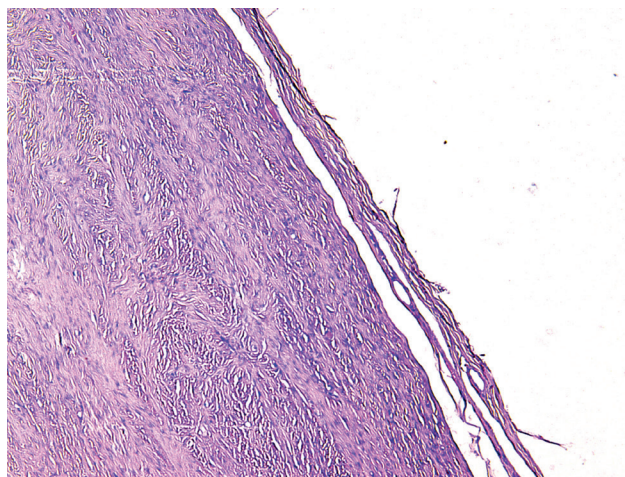


Figure 2a. Histology (H&E): Fibroma with a fibrous capsule (magnification $\times 100$);

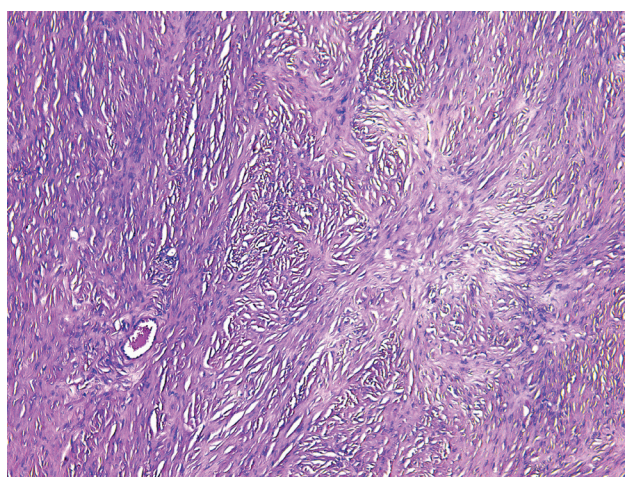


Figure 2b. Histology (H&E): Fibroma formed by fibrocytes and collagen fibers, single fibroblasts. A visible small blood vessel (magnification $\times 100$);

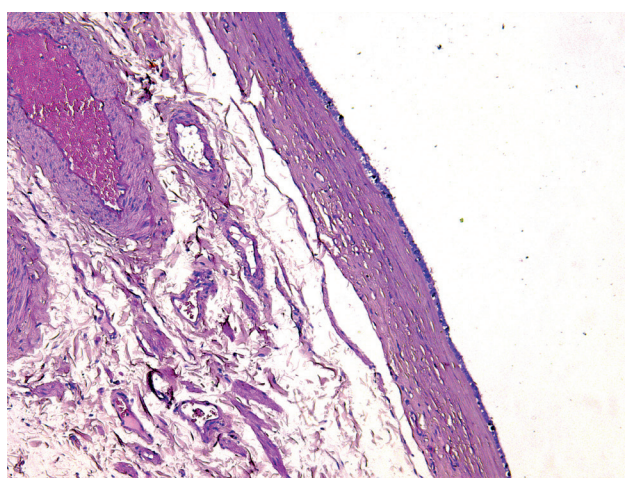


Figure 2c. Histology (H&E): A wall of serous cystadenoma lined with a cubic and flattened epithelium (magnification $\times 100$);

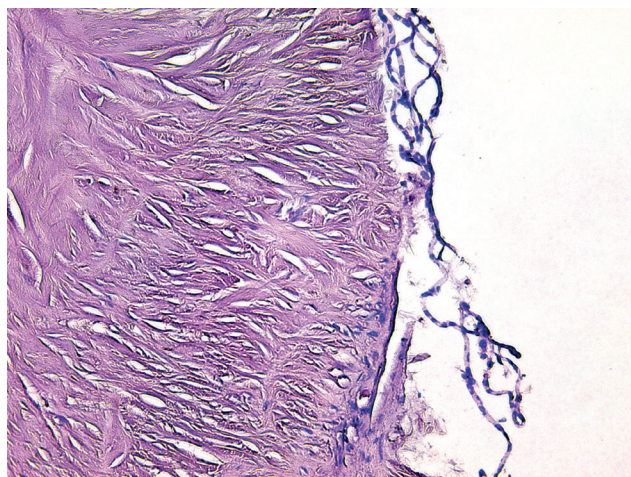


Figure 2d. Histology (H&E): Fibroma from the cystic part up-holstered with an artificially altered epithelium (enlargement $\times 400$);

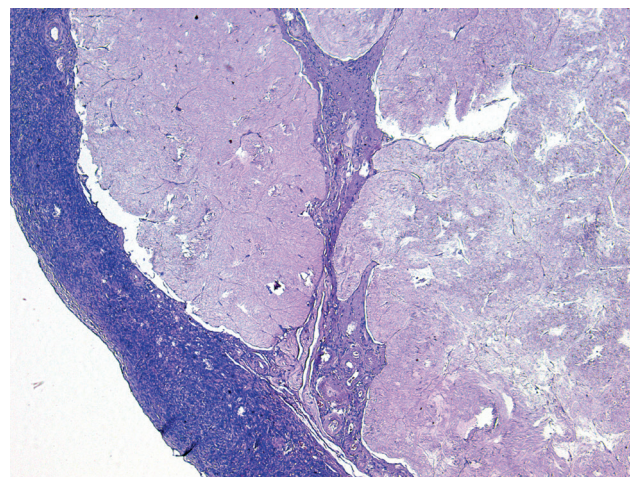


Figure 2e. Histology (H&E): Ovary with corpus albicans (magnification $\times 100$)

Diagnosis: Collision tumor of fibroma with a serous cystadenoma of the left ovary. Endometrial atrophy. Adenomyosis. Bilateral paratubal cysts. Endometriosis of the right ovary.

DISCUSSION

Despite the fact that collision tumors have been recently increasingly reported, occurrence of these tumors with the ovary is rare, especially in the collision of two benign variants.^{3,4} Surface epithelial-stromal tumors are the commonest of ovarian tumors. Sex cord stromal tumors are less common. A combination of these tumors is very rarely encountered. The present case is the fourth reported case.

Fibroma accounts for 1% - 5% of all ovarian tumors and is predominantly peri- and postmenopausal. Fibromas in most cases are asymptomatic. The histogenesis of ovarian fibroma remains to be elucidated, and potential sources for its development are mesenchymal cells of ovarian stroma, fibrothecoma, Brenner's tumor, ovarian cortex, blood vessels and lymph vessels.⁵

Often, ovarian fibroma mimics ovarian cancer due to their solid nature, ascites, pleural effusion and elevated levels of CA-125.⁶

Surface epithelial-stromal tumors are the most common ovarian tumors. Serous variants may have a fibrous component - serous cystadenofibroma. In this form, as opposed to the collision between fibrous and serous cystadenoma, we can see cystic spaces of variable dimensions embedded in visible fibrous mass without a clear distinction between the solid and the cystic parts. Histologically in serous cystadenofibroma, the epithelial and fibrotic components are mixed. In our case, there was a clear distinction between the fibrous solid and the serous cystic part, macroscopically

and histologically.

A collision tumor represents the coexistence of two adjacent but histologically different neoplasms occurring in the same organ with completely different basal layers or stroma. Collision tumors occur in various organs such as the esophagus, stomach, and thyroid, but they are extremely rare in the ovaries. The most common histologic combination of collision tumors of the ovary consists of teratoma and mucinous tumors.⁷ During clinical evaluation, differentiation of the characters of these ovarian tumors is important for appropriate treatment strategies and prognosis. Ultrasound is the most common tool used to evaluate ovarian masses, but it is impossible to determine the exact size and direction if the mass is huge. It is also impossible to determine whether other complicated masses are present or not. Computed tomography and MRI are more appropriate diagnostic tools for huge ovarian masses. In the reported case, ultrasound is sufficient, but due to increased CA125 and vaginal bleeding, a total hysterectomy with salpingo-oophorectomy and part of omentum was undertaken. PMB is vaginal bleeding that occurs at least 12 months after menstrual periods have stopped. PMB is a common problem representing 5% of all gynecology outpatient attendances. The most common causes of bleeding after menopause include thinning of the reproductive tract tissues and hormone therapy. In some cases, bleeding can signal cancer of the uterine lining or cervical cancer. Other possible causes include fibroids, small growths in the uterus or cervix, known as polyps, and ovarian cancer, especially estrogen-secreting ovarian tumors. Although most women with PMB will not have significant pathology, the priority is to exclude malignancy.

The particular case reported is PMB which together with the elevated value of CA125 and the ultrasound characteristic point to a malignant ovarian tumor. This required a

total hysterectomy with salpingo-oophorectomy and a part of omentum. Despite the clinical, paraclinical and instrumental data indicating a malignant process, the macroscopic and histological picture reveals a benign cystic formation with smooth walls and a solid whitish formation derived from it rather than the atrophic ovary. This suggests that fibroma is most likely derived from mesenchymal cells of cystadenoma itself. It is imperative to exclude: serous cystadenofibroma, fibroma with cystic degeneration, Brenner tumor, and fibrothecoma.

Serous cystadenofibroma: blending epithelial and fibrous component.³ In our case, there was a clear distinction between the fibrous solid and the serous cystic part, macroscopically and histologically.

Fibroma with cystic degeneration: absence of epithelium in cystic degeneration.³ In the present case, the cystic part is lined with cubic/flattened epithelium, including the solid and cystic portions.

PMB has forced the exclusion of fibrothecoma. In a series of cuts of the solid component does not fall into a thecal component.

Serial slots are also required to turn off the Brenner tumor.

I report a case of rare collision between two benign ovarian tumors that clinically, paraclinically and instrumentally target a malignant ovarian process but morphologically revealed benign character.

The reported case is a striking example that the final diagnosis is morphological.

CONCLUSIONS

To the best of our knowledge, this is the fourth reported case of coexistent fibroma and serous cystadenoma in the ovary. Both these tumors were benign and therefore no adverse consequences were expected for the patient. The existence of ovarian collision tumors is a further reason for careful gross and microscopic examination of tissue at this site.

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Коллизия фибромы и серозной цистаденомы яичника, имитирующая карциному

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Абстракт

Коллизионные опухоли представляет собой сосуществование двух соседних, но гистологически различных опухолей без гистологического смешения в одном органе.

Фиброма яичника является наиболее распространённой доброкачественной стромальной опухолью. Серозные опухоли яичников являются наиболее распространёнными эпителиальными опухолями. Однако коллизия между ними является редкой патологией, имитирующей злокачественную опухоль. Мы сообщаем о 63-летней женщине с лёгким постменопаузальным кровотечением. Ультразвуковое исследование органов таза выявило округлое образование правого яичника с гипо- и гипер-плотными участками. Параклиника: СА125 слегка приподнят. Гистология: коллизия двух доброкачественных опухолей яичников, имитирующих карциному.

Ключевые слова

коллизионная опухоль, опухоль яичника, серозная цистаденома, фиброма
