

A Collision Tumor of The Ovary During Pregnancy - Rare Combination

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ABSTRACT

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

Serous tumors of the ovary are the most common of epithelial tumors, And mature teratoma is the most common of Germ cell tumors. However, a collision between them is a rare pathology. Here the author presents a report to a 36-year-old pregnant woman whose ultrasound examines establishes rounded right ovary formation with hypo- and hyper-dense sections in the small pelvis. Paraclinical: CA125 at a normal.

Keywords

Collision tumor, Ovarian tumor, Serous cystadenoma, Mature teratoma, Pregnancy.

Introduction

Collision tumors are rare neoplasms characterized by histologically different tumors developing in close proximity in an organ from two divergent lineages [1]. Tumors with serous differentiation represent 46% of all surface epithelial-stromal ovarian neoplasms of which 50% are benign serous tumors. These are usually cystic [2]. Teratoma is a benign germ cell tumor of more than one cell type, originating from more than one germ layer. Benign teratomas of the ovary are composed of mature histologic structures of ectodermal, mesodermal and endodermal origin. They make up 10 to 15% of all ovarian tumors and tend to occur at a relatively early age [3]. I report a rare collision between two benign tumors - solid and cystic, mature teratoma and serous cystadenoma of the right ovary at a pregnant woman and representing a diagnostic challenge and a clinical-social dilemma.

Case Report

This is the case of a 36-year-old pregnant woman admitted to the obstetrics and gynecology department for frequent uterine contractions and low abdominal pain. She had 4 pregnancies: 2 miscarriages, 1 stillbirth, and the present pregnancy. She reports

that her obstetrician observes a small cyst on her right ovary at 3-4 months, but no further action is being taken.

Gynecological status

Vagina deep and wide. Uterus corresponding to 37 gestation week. Ultrasound transvaginal test: rounded lesion 20 cm in diameter with hypo and a hyperdense section on the right ovary. Corpus uteri and left adnexa with normal parameters about pregnancy.

Paraclinical tests

Blood smear and biochemistry are within normal limits. Serum CA-125 in normal (14.10 U / ml).

It was planned Re-sectio Caesarea (isthmico transversalis) and adnexectomy dextra. As a result, a live male fetus weighing 2310g is extracted; height: 47cm; APGAR: 9, which wept immediately after aspiration of the upper respiratory tract and was taken over by a neonatologist. Followed eliminating the cystic formation of the right ovary along with the fallopian tube. The left ovary was preserved because there were no pathological changes. The cyst was sent for morphological examination.

Macroscopically

Cystic formation 18 cm in diameter with a smooth and whitish outer surface. At one a pole, there is a fallopian tube 5 cm without changes. In an incision, the cyst has smooth internal walls and is

filled with clear liquid contents. Inside the cyst, a slightly lobbed and soft grayish tumor was encountered at the cut of which falls into denser sections (Figure 1).



Figure 1: Macroscopic picture: serous cystadenoma and mature teratoma. Cut surface.

Histologically Hematoxylin and Eosin (H&E)

The cystic part is made up of a thin fibrous wall cushioned inside with a cubic / flattened epithelium (Figure 2a). In the solid tumor component, hyaline cartilage, adipose tissue, a small section of sweat glands, mature brain tissue are found; on which is located thin fibrous wall with a cylindrical and cubic epithelium of the cystic part (Figure 2b). In another area, there are small cysts. One is upholstered with cylindrical epithelium with bronchial characteristics, the other is upholstered with a multilayer flat epithelium with keratin material inside. Among them are small mucinous and sweat glands and lymphocytes (Figure 2c). The brain tissue consists of glial cells without atypia and without mitoses (Figure 2d). Among the two tumor components, came across corpus luteum of pregnancy (Figure 2e).

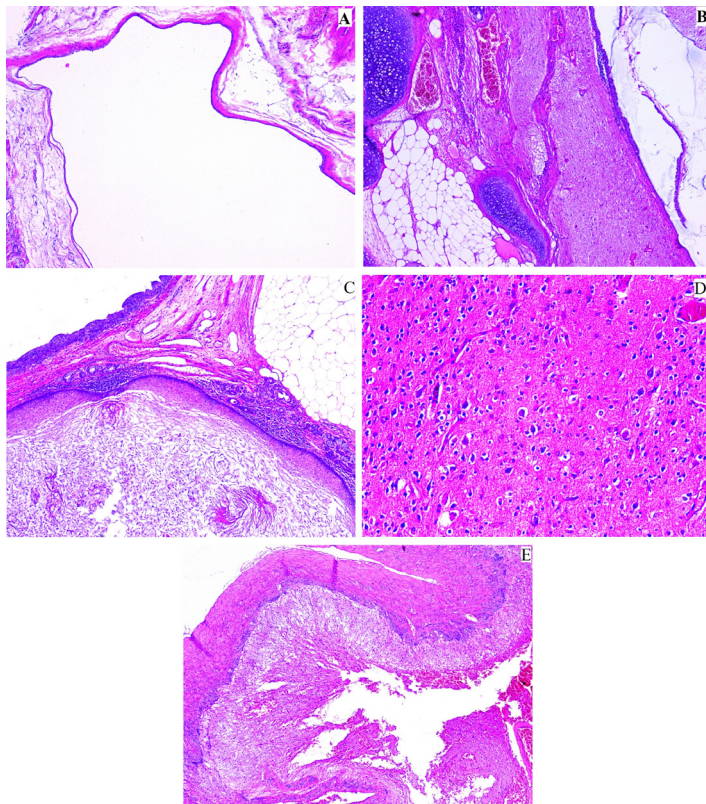


Figure 2: Histology (H&E): a. A wall of serous cystadenoma lined with a cubic and flattened epithelium (enlargement $\times 50$); b. Mature teratoma with hyaline cartilage, adipose tissue, glial tissue, sweat glands. Above the glial tissue is a wall of serous cystadenoma. There is a collision between the serous cystadenoma and the mature teratoma (enlargement $\times 50$); c. Small cystic sections with mucinous and sweat glands between them. (enlargement $\times 50$); d. Mature brain tissue (enlargement $\times 200$); e. Corpus luteum of pregnancy (enlargement $\times 50$).

Diagnosis

Collision tumor of mature teratoma with a serous cystadenoma of the right ovary at a pregnant woman.

Discussion

Despite the increased reporting of collision tumors, their appearance with the ovary is rare, especially in the collision of two benign variants [2,3]. Surface epithelial-stromal tumors are the commonest of ovarian tumors. Benign germ cell tumors are less common [3]. A combination of these tumors in pregnant women is extremely rare. Pathogenesis of collision tumor has remained controversial. This tumor is considered multiple synchronous tumors in a single organ because these components are separated from each other by a stroma without histological admixture. Various combinations have been reported.

Each component of collision tumors occur coincidentally with no connection, and the biologic behavior depends on their own tumor characteristics. Various pathogenetic links are suggested for the development of collision tumors: accidental occurrence; a simultaneous proliferation of two different cell lines; dividing the pluripotent stem cell into two; carcinogenic agent; an oncogenic growth factor produced by a metastatic tumor; alteration in the microenvironment; Teratoma is a germ cell neoplasm whereas origin of serous cystadenoma is explained by metaplasia of the ovarian surface epithelium in a case where these two tumors coexisted a possibility may be considered that teratoma originated from a germ cell rest; another possibility could be that the teratoma resulted from pathogenesis of ovum [4].

I present a rare case of a synchronously growing collision tumor in a pregnant woman. A rapid increase in mucinous tumors [5] and teratomas [6] during pregnancy has been reported in the literature, but no other case of the rapid growth of a collisional tumor - serous cystadenoma and mature teratoma in a pregnant woman - was reported in the literature. One report presented the possibility of compatibility between mucinous cystadenoma and teratomas [7]. Most adnexal masses during gestation are functional or benign. Corpus luteum of pregnancy and simple cysts are still frequently demonstrated in the pathological diagnosis of an ovarian tumor during pregnancy, ranging from 11 to 41% [8]. In the reported case rapid tumor growth was observed after 3 months of pregnancy, with no solid component being detected on an ultrasound.

No surgical intervention was initiated because of the refusal of the pregnant woman and because of the risk of another abortion. An of CA125 study, in normal limits at 4 month and one month before

birth. To preserve the fetus, a cesarean section was performed, followed by removal of the cyst. The histological diagnosis revealed a collision between a mature solid teratoma and serous cystadenoma. A random finding in the tumor is Corpus luteum of pregnancy. In the present case, we adhered to all steps of diagnosis and treatment of pregnant women with ovarian tumors [8].

Conclusion

This report presents a case in which pregnancies accelerate the growth collision tumor. Women with ovarian cysts or tumors should be counseled during pregnancy and careful follow-up for possible complications. The present case demonstrates that the final diagnosis is pathological, but is indicative of adequate interpretation of clinical, laboratory and instrumental parameters in order to preserve pregnancy and have a live baby.

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