Trichoadenoma In A Mature Cystic Teratoma: A Rare Finding

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Abstract
Skin adnexal tumors arising in dermoid cysts of the ovary are exceedingly rare. We report a trichoadenoma arising in a dermoid cyst in a 42-year-old female. The histopathology of trichoadenoma has also been described briefly.

Keywords: trichoadenoma, mature cystic teratoma

Introduction
Mature teratomas, which are almost all cystic (dermoid cysts), account for approximately 25% of all ovarian tumors, and 30% of benign ovarian tumors. They usually develop in children or women of the reproductive age group (1). Histologically, they are composed of variable proportions of tissue originating from the ectoderm, mesoderm, and endoderm. Cystic cavities are lined by mature epidermis. Although skin appendages and neural tissue are extremely common, there are only few case reports of skin adnexal tumors arising in a mature teratoma. We report a case of ovarian teratoma with a trichoadenoma. To the best of the authors’ knowledge, this is the first report describing this rare benign skin adnexal tumor, in a mature cystic teratoma of the ovary.

Case Report
A 42 year old female presented in the emergency department with pain in the abdomen and vomiting. Ultrasonographic examination showed a large, predominantly cystic left adnexal mass, measuring 7.1 x 6.1 cm, with a highly echogenic component. Left ovary was not separately defined. The possibility of a dermoid cyst was suggested by the radiologist.

The patient underwent exploratory laparotomy with hysterectomy and bilateral salpingo-oophorectomy. The patient’s post-operative course was uneventful and she was discharged from the hospital on day 5 after surgery. The left ovarian mass measured 8 x 6 x 3.5 cm. The outer surface was tan and smooth. Cut section was partly solid and partly cystic. Multiloculated cysts filled with cheese-like material and hairs were seen. Slides were prepared, stained with hematoxylin-eosin and seen under the light microscope.

Sections from the cystic areas showed a lining of keratinizing stratified squamous epithelium, including sebaceous glands, sweat glands and hair. Neural tissue, respiratory and gastric epithelium, fat, bone and thyroid follicles were also identified.

One of the sections taken from the solid area showed numerous horn cysts surrounded by eosinophilic cells. A single layer of flattened granular cells was also seen interpolated between the horn cysts and surrounding eosinophilic cells. A diagnosis of trichoadenoma was made.

Fig. 1: Low power view showing keratinizing squamous epithelium and skin appendages. (H&E x 40)
Discussion

Benign and malignant somatic tumors arising in mature cystic teratomas of the ovary are a rare but recognized phenomenon. Despite the benign nature of mature teratomas, considerable interests have been paid on them because of the unusual histogenesis caused by the totipotency of these tumors.

A variety of benign and malignant neoplasms like blue naevi\(^9\) glomus tumor\(^{10}\) squamous cell carcinoma\(^{11}\) have been seen in benign cystic teratomas. All these neoplasms with somatic type features arise from the germ cell elements of the teratoma.

However, the presence of a skin adnexal tumor, benign or malignant is a rare finding in a mature cystic teratoma. Few cases of sebaceous adenoma\(^2\), sebaceous carcinoma\(^4\), and microcystic adnexal carcinoma\(^3\) have been reported in mature cystic teratomas. But we were unable to find any reports citing the presence of a trichoadenoma in a teratoma.

Trichoadenoma is a rare benign, well differentiated solitary and slowly growing tumor of the hair follicle, first described by Nikolowski in 1958\(^5\) Microscopic study of trichoadenoma characteristically shows numerous horn cysts throughout the dermis, surrounded by eosinophilic epithelial cells.

The eosinophilic cells greatly resemble the eosinophilic cells that are often seen in trichoepithelioma located between the basophilic cells and the central horn cysts\(^6\) The central cystic cavity shows epidermoid keratinization and resembles the cross section of infundibular portion of pilosebaceous canal without any evidence of hair follicle formation\(^{6,7,8}\)

The finding of a trichoadenoma adds to the versatility of the tumors that can arise in a teratoma and further highlights the totipotency of the latter.

Fig. 2: Low power view showing multiple horn cysts lined by eosinophilic cells. (H&E x 100)

Fig. 3: High power view of the horn cysts, eosinophilic cells and intervening attenuated granular cell layer (H&E x 400)
References


