Report of a Rare Case of Ovarian Cyst: Cystadenoma of the Rete Ovarii

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The cystic formation of the rete ovarii has been described rarely in the medical literature. Before performing pathologic examination they are mostly confused with other ovarian cystic structures. Currently, with the help of the certain distinguishing features of the rete ovarii tumors, diagnosing a primary tumor of the rete ovarii is much easier. Herein we describe a case of a postmenopausal patient presenting with a right sided adnexal mass, a rare tumor of t he rete ovarii, the cystadenoma.

Key Words: Ovarian cyst, Cystadenoma, Rete ovarii, Postmenopausal, Ultrasound

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Introduction

Rete ovarii (RO) is the homolog of the rete testis (RT), is located in the hilus of the ovary.[1] Although there is some uncertainity, it is thought to have a mesonephric origin.[2] Although RT has a fully developed structure and functionally active, the RO, the ovarian counterpart of the RT, has unknown function.[2]

In the medical literature, there are many reports of cysts and tumors of the RO in mice, while lesions described in human being are rare with the largest series to date comprising under 20 cases.[3] Cystic structures of the RO are not only infrequently encountered, but also one of the rare source of the clinically symptomatic adnexal lesions.

Herein, we describe a 53-year old postmenopausal woman presenting with an adnexal mass, one of the rare lesion of the RO, the cystadenoma.

Case Report

A 53-year old patient referred to our hospital with a right sided adnexal lesion diagnosed in routine postmenopausal control. Her past medical and surgical history was unremarkable. Her pelvic examination revealed a round, non-tender, mobile, fist-sized right sided pelvic mass. Her hematologic and biochemical profile were in normal ranges, hormone studies were consistent with postmenopause, and tumor markers (CA125: 16.4 U/mL (0-35 U/mL), CA 19-9: 5.15 U/mL (0-37 u/mL), CA 15-3: 13.3 U/mL (0-31.3 U/mL) and CEA: 2.03 ng/mL (0-5ng/mL)) were also in normal ranges. Pelvic ultrasound showed a cystic lesion arising from right adnexa, with rounded, thin capsulated, thin septations without vascularization, a diameter of 10x9x11cm (Figure 1). There was no ascites in the pelvic cavity.

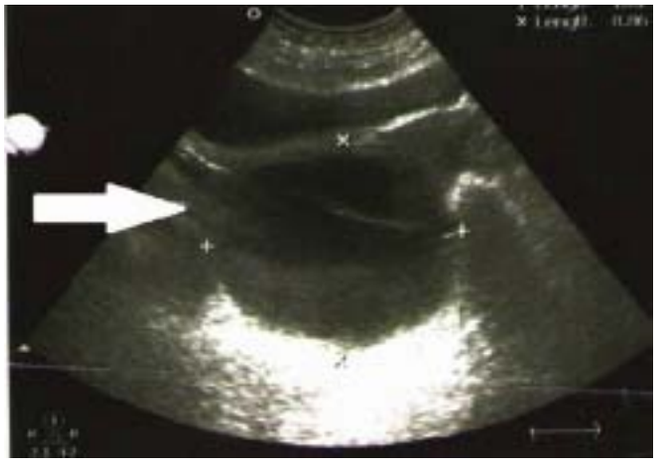

Figure 1: Ultrasound illustrated a cystic lesion arising from right adnexa, with rounded, thin capsulated, thin septations without vascularization, a diameter of 10x9x11cm (white arrow)

She was subsequently taken in for surgery. At laparotomy, a 12 cm sized, smooth cystic mass that originated from right ovary was found. There were no adhesions to surrounding organs. The contralateral ovary was normal and uterus appeared to be enlarged. The ovarian mass was sent for frozen section, 12 cm in the largest dimension, adherent to the fallopian tube, had thin walls and a smooth inner surface without solid or papillary structures, suggesting serous cystadenoma. Total ab-

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dominal hysterectomy with bilateral salpingo-oophorectomy was performed.

Gross examination of the post-operative specimen showed unilocular septated cyst (10x9x12 cm) filled with serous fluid. Microscopically, the cyst was lined by a single layered flat epithelium (Figure 2a). Underneath the epithelial layer a thin layer of smooth muscle cells was seen (Figure 2b). Occasional groups of plump polygonal cells with eosinophilic cytoplasm were also noted in the cyst wall; these were the hilus cells, originally found in the rete ovarii (Figure 3). Invasion of ovarian tissue was absent. With these morphological findings, the diagnosis was "cystadenoma of the rete".

The postoperative follow-up was uneventful, the patient did well and discharged at home on the fourth postoperative day.

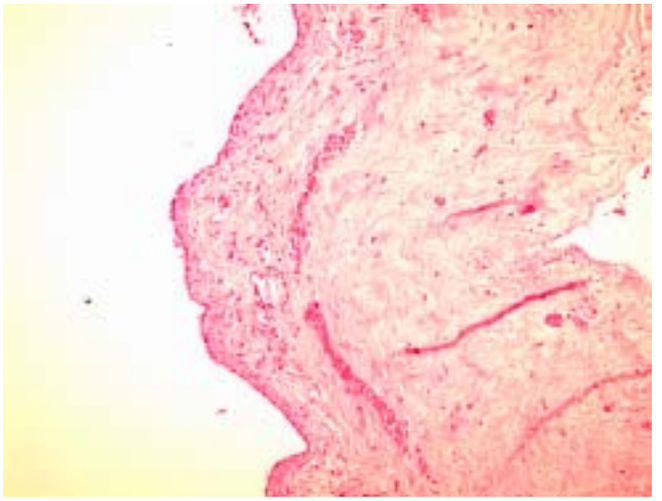

Figure 2a: Microphotograhy showing thin-walled cystic structure with single-layered flat epithelium lining it [x20, H&E]

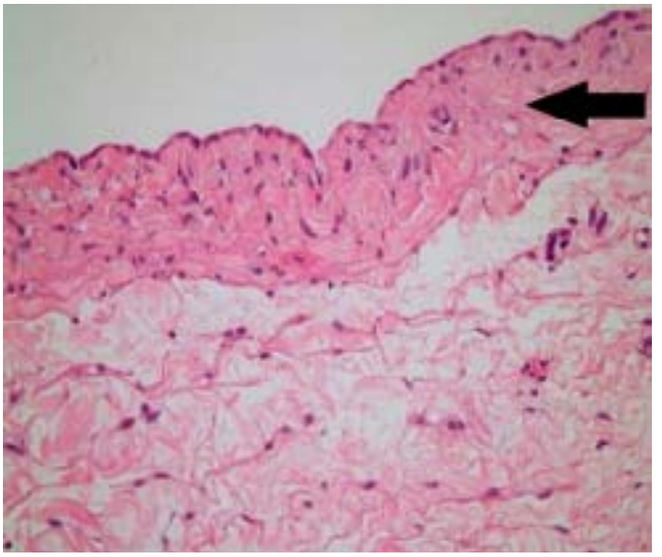

Figure 2b: Microphotograhy showing muscle layer under the cyst epithelium (black arrow) [x40, H&E]

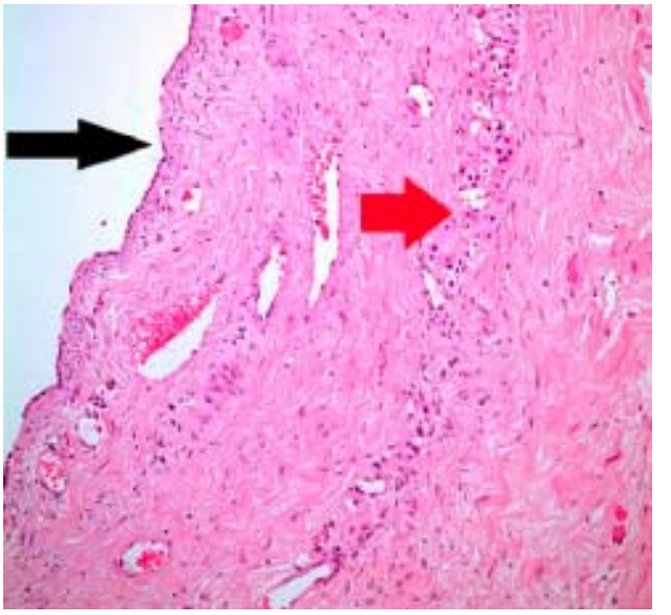

Figure 3: Microphotograhy showing rete epithelium lining the cyst (black arrow) and hilus cells in the cyst wall (red arrow) [x40, H&E]

Discussion

The RO is an anatomical structure of uncertain histogenesis.[2] Upadhay et al. favored a mesonephric origin in mice but; given the considerable differences in gonadal development between species, these results can not be transferable to humans.[4,2] Nogales et al. also suggested that the RO represents a structure intermediate between the mesonephric duct and ovarian sex cords.[2] The position of RO varies according to species, found most commonly in the hilus of the ovary, but location in the tubules or completely outside the ovary, in the mesovarium has been described.[5]

From birth through puberty, the area filled by the RO becomes smaller and it occupies less volume.[5] In adulthood, the appearance of RO is variable, from almost lacking to abundant.[5] With aging it tends to become more atrophic, for this reason tumors of the RO are very unusual.[5] Khan et al. showed the lower levels of estrogen and progesteron receptors in the human RO and they postulated that it may be responsible for the rarity of RO tumors.[6]

Rutgers and Scully stated that although rete cysts have been rarely described in the literature, they are not that uncommon.[1] These authors described 16 cases of RO cysts (cystadenomas), the ages of the patients ranged from 23 to 80 years (mean, 59 years), mostly postmenopausal.[1] Similarly our case is also that of 53-year old postmenapausal patient. Rutgers and Scully also reported a 8.7 cm mean diameter for cysts (range 1-24 cm).[1] The cyst of our case was 12 cm in diameter.

Although there are no well defined criteria for diagnosing a primary tumor of the RO, some distinguishing features are described such as, apparent location in the hilus of the ovary, occasional ciliated cells, crevice formation of the inner surface, other resemblance to the normal rete, remnant of rete tissue adjacent to lesion and a wall of fibromuscular connective tissue.[1,7] In our case the involvement is also at the hilus region with the presence of features described above.

In conclusion, we reported a postmenopausal women with a postoperative diagnosis of cystadenoma of the RO, presenting as a right sided adnexal mass. After exclusion of other causes, the diagnosis of a rare ovarian tumor, cystadenoma of the RO can be established.

Nadir Görülen Bir Over Kisti Olgusu: Rete Ovarinin Kistadenomu

Rete ovaride kist oluşumu ile nadiren karşılaşılmaktadır. Patolojik değerlendirmeden önce bu kistler sıklıkla overden kaynaklanan diğer kistik oluşumlarla karıştırılmaktadırlar. Günümüzde rete ovarinin belirli ayırıcı özellikleri sayesinde, rete ovariden kaynaklanan primer bir tümörün tanınması çok daha kolaylaşmıştır. Burada, sağ adneksiyal alana yerleşmiş kitlesi olan postmenopozal bir olguda rete ovarinin nadir görülen bir tümörü olan kistadenom tartışılmaktadır.

Anahtar Kelimeler: Over kisti, Kistadenom, Rete ovari, Postmenopozal, Ultrason

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