

## CASE REPORT

**Epidermoid Cyst of Ovary - A Rare Case Report***Hemlata T Kamra<sup>1\*</sup>, Swaran Kaur<sup>1</sup>, Parveen Rana<sup>1</sup>, Amrita Duhan<sup>1</sup>, Ruchi Agarwal<sup>1</sup>**<sup>1</sup>Department of Pathology, BPS Govt. Medical College, Khanpur Kalan, Sonapat-131001  
(Haryana) India***Abstract:**

Epidermoid cyst of ovary represents 1% of all surface epithelial tumors. Though we commonly see follicular cyst, simple serous cyst, hemorrhagic cysts in hysterectomy specimens of post menopausal females, epidermoid cyst is an incidental finding. It is necessary to differentiate epidermoid cyst from dermoid cyst and immature teratoma because of different line of treatment. We here report a case of epidermoid cyst in a 50 years old female who presented with pain in lower abdomen and increased bleeding per vaginum.

**Keywords:** Cyst, Epidermoid

**Introduction:**

Ovarian cysts are sac filled with fluid or semisolid material that forms in the ovaries or on their surface. Majority of ovarian cysts are benign and cause no symptoms but some may cause pain, abnormal menstrual bleeding and irregular menstrual periods. Cysts commonly found in ovaries include functional cysts commonly seen in women in reproductive age group, dermoid cysts, chocolate cysts, cystadenoma cysts, polycystic ovarian disease. Epidermoid cyst of ovary is uniformly a rare incidental finding in hysterectomy specimens [1].

Fatemeh K *et al* 2009 [2] in their study have cited that epidermoid cyst of the ovary as defined by histology is a heterogeneous group; pure epidermoid cyst, if it exists at all, probably

represents less than 1% of ovarian surface epithelial tumors.

**Case Report**

A 50 years old female presented with pain in lower abdomen and increased bleeding per vaginum. Ultrasonography revealed adenomyosis with a cyst epidermal in right ovary. The patient underwent total abdominal hysterectomy with unilateral right salpingo-oophorectomy. Grossly, the uterus and cervix measured 10cm x6cmx3cm. Right tube measured 4.5cm. Right ovary measured 2.5cm x 2cmx1cm. Cervix appeared healthy. Cut section of uterus revealed endometrium 0.2cm and myometrium 2.2cm. On cutting open the right ovary, there was a cyst measuring 1.5cmx1.3cmx1cm. Cyst was filled with pultaceous material (Fig.1). Extensive search was made for hairs, tooth etc but was effortless. Microscopic examination showed chronic cervicitis with adenomyosis. Fallopian tube had normal histology. Section from right ovary showed a cyst lined by keratinized stratified squamous epithelium but without adnexal appendages. The lumen of the cyst had keratinous debris (Fig. 2a and 2b). There was entrapment of surface epithelium in the underlying connective tissue (Fig. 3). Stroma under the lining epithelium showed diffuse lymphocytic epithelium and rare

focal aggregates (Fig.4). The diagnosis of epidermoid cyst was given.



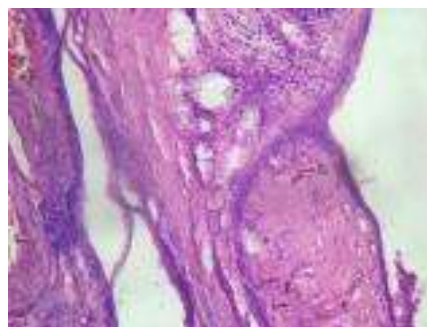
**Fig.1: Shows a Cyst Measuring 1.5cmx1.3cmx1cm. Cyst was filled with Pultaceous Material**



**Fig. 2 and 2a Showing Cyst Lined by Stratified Squamous Epithelium and Ovarian Stroma with Corpus Albicans Lumen of the Cyst Contains Keratinous Debris. (H&E Stain)**



**Fig. 3 Shows Lymphocyte Infiltration in the Underlying Stromal Tissue (H&E Stain)**



**Fig. 4 Shows Entrapment of Surface Epithelium in the Underlying Connective Tissue (H&E stain)**

#### **Discussion:**

Epidermoid cysts of ovary are exceptionally rare. Shinya *et al* 2006 [3] in their study have reported that by 2006 there were only 21 case reports. They must be differentiated from dermoid cyst of the ovary by the absence of adnexal appendages. Epidermoid tumors are thought to be mature cystic teratomas derived purely from ectoderm and is also reported as its monodermal variant. Serov *et al* 1973 [4] have reported subgroup of monodermal variant and highly specialized teratomas which includes stroma ovarii, carcinoids, strumal carcinoids and a miscellaneous category. The miscellaneous category includes epidermoid cyst, sebaceous gland tumor (Strauss and Gates, 1964)[5] and a tumor resembling the retinal analge (Hameed and Burslem) [6].

Histogenesis of epidermoid cyst is unknown. Nogales and Silverberg 1976 [7] have suggested metaplasia of coelomic surface epithelium of ovary as evident ultrastructurally in one of their case. However, some cases may be teratoid in origin, as has been suggested for the analogous lesion in the testis. Young and Scully 1980 [8] have opined that epidermoid cyst originate from

epithelial nests of the type encountered in Brenner tumors. There are case reports in which epidermoid cysts are associated with tumors. Peters *et al* 2002 [9] reported an epidermoid cyst in combination with a well differentiated endometrioid carcinoma of the ovary. Azzena *et al* 2002 [10] has described a case in combination with primary carcinoid of ovary. Giunta P *et al* 2008 [11] have reported a case of cystic mature teratoma and epidermoid cyst associated with granulose cell tumor supporting a teratomous origin. Kontogianni *et al* 2005 [12] have reported two cases with malignant change involving an ovarian epidermal cyst. But the question of histogenesis is still unresolved and the origin of cyst from metaplasia of coelomic epithelium is considered most appropriate.

Epidermoid cyst can also be diagnosed on imaging studies which can help both gynaecologist and pathologist not to overdiagnose epidermoid cyst as dermoid cyst. Fu *et al* 1996 [13] have reported on ultrasound images that epidermoid cysts are well-circumscribed, round to slightly oval masses with a hyperechoic wall that is sometimes calcified. The mass may be hypoechoic, but the laminations often give rise to an “onion-skin” or ringed appearance. On MR images, epidermoid cysts have a similar “target” appearance, with a low-signal-intensity capsule.

The layers of keratinized material within the lesion are rich in water and lipid and appear as areas of high signal intensity on both Spin Lattice Relaxation Time (T1W1) and Transverse Relaxation Time (T2W2) weighted images. Liang *et al* [14] in their retrospective study analyzed on Computed Tomography (CT) and Magnetic Resonance (MRI) scans that epidermoid cysts had hypodensity with clear margin and the thin wall was enhanced. The cysts were demonstrated as hypointensity signal on T1 weighted and hyperintensity on T2 weighted images.

In our case we could see the entrapment of surface epithelium in the underlying stromal tissue of ovary which indicates that the mechanism for the formation of epidermoid cyst is the same as what takes place in other parts of the body. Also we could see chronic inflammatory cells and a lymphoid aggregate subepithelially. Whether chronic inflammation leads to metaplasia of surface epithelium or the formation of cyst leads to inflammation in subepithelial tissue is unknown. Our case favoured the concept of metaplasia of coelomic epithelium for the origin of epidermoid cyst. But whatever may be the cause the cyst must be removed because the rupture of cyst can lead to foreign body reaction to keratin released. Also one should be careful not to overdiagnose epidermoid cyst as dermoid cyst.

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