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Torsion of the ovary with incidental finding of Teratoma: A Case Report

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ABSTRACT

Ovarian torsion is a common emergency in gynecologic surgical practice. In adults the most common cause is an ovarian teratoma. A middle aged female came with acute abdominal pain which on radiology was suggestive of torsion. On histopathological examination, benign mature cystic teratoma was identified in one of the cysts seen in the ovariotomy specimen. This case emphasizes the variable presentations of ovarian teratoma. On histopathology we strongly recommend that all the large and small cysts should be dissected properly to look for the contents in cases of ovarian torsion.

Keywords: Cyst, ovary, teratoma, torsion

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INTRODUCTION

Ovarian torsion is the fifth most common emergency in gynecologic surgical practice and has a prevalence of around 2.7% in all cases of acute abdominal pain. Risk factors include pregnancy, ovarian stimulation, prior abdominal surgery, tubal ligation and various pathologies resulting in enlarged ovaries. However, ovarian teratoma remains the most common cause [1-3].

The word 'teratoma' is derived from a Greek word "teraton" meaning monster. It was first used in the year 1863.Teratomais interchangeably used with 'dermoid cyst' because these tumors are almost always lined by skin like structures. According to genetic studies majority of teratomas arise from an ovum after the first meiotic division [4]. Teratomas are most common tumor in reproductive age group and account for 10-20%of all the ovarian neoplasms. They are bilateral in 10-13% cases [5].

Case Report

A 44 year old lady, went to a peripheral hospital with acute pain abdomen of 3 days duration with associated low grade fever. She was apparently well before with no significant personal or past history. On ultrasound abdomen a diagnosis of torsion of right ovary was made. Right ovariotomy was done and the specimen was sent to our hospital for histopathology. Grossly specimen of ovary with attached fallopian tube weighed 216 gm and measured 9.5x 7x 6 cm. External surface was hemorrhagic. On cut open multiloculated cysts filled with haemorrhage were noted. Cut section of one of the cyst shows luminal pultaceous and mucoid material (Figure 1). On histology, the cyst wall was lined by cuboidal to flattened epithelium with focal areas showing squamous lining and luminal keratin flakes. The underlining fibrocollagenousstroma shows sebaceous glands, colloid filled thyroid follicles, sheets of foamy macrophages and cholesterol clefts along with ovarian parenchyma (Figure2-4). A diagnosis of benign mature cystic teratoma with torsion of the ovary was given. No follow up details of the patient were available.

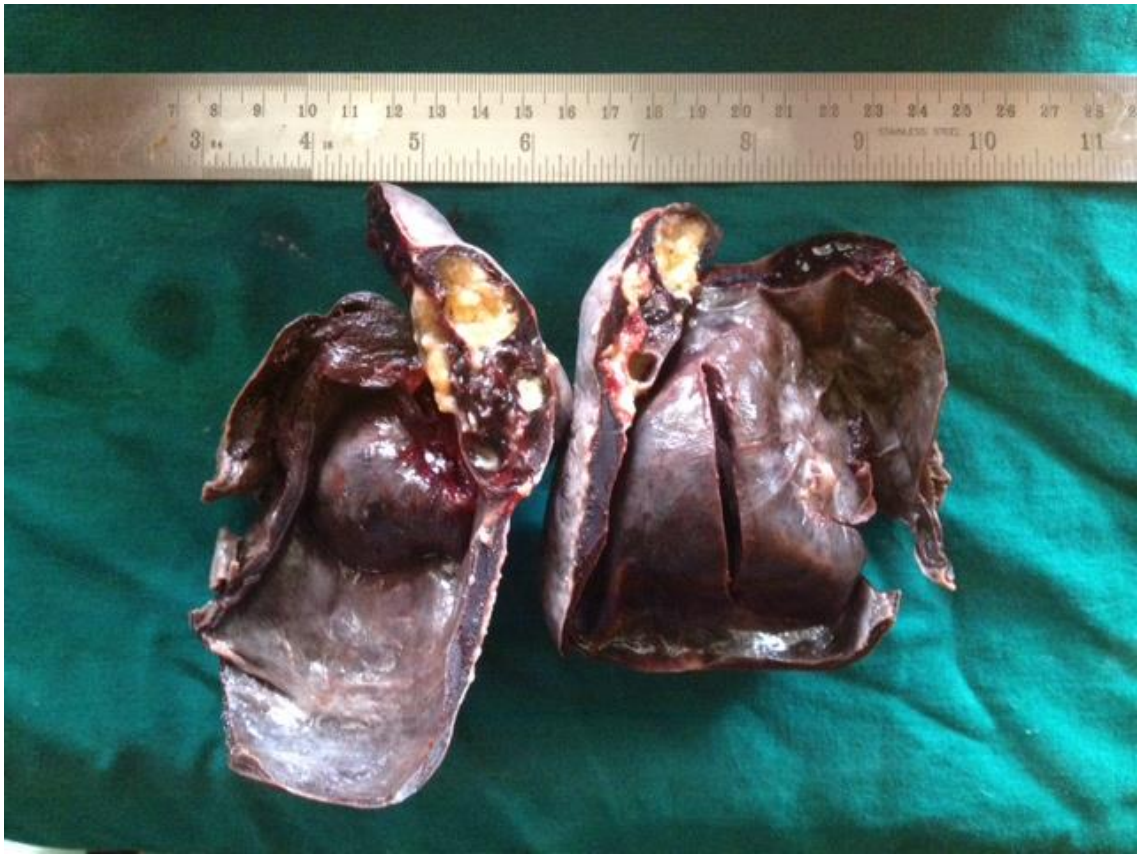

Figure 1: Enlarged ovary with multiloculated cysts, c/s shows one cyst with luminal pultaceous and mucoid material

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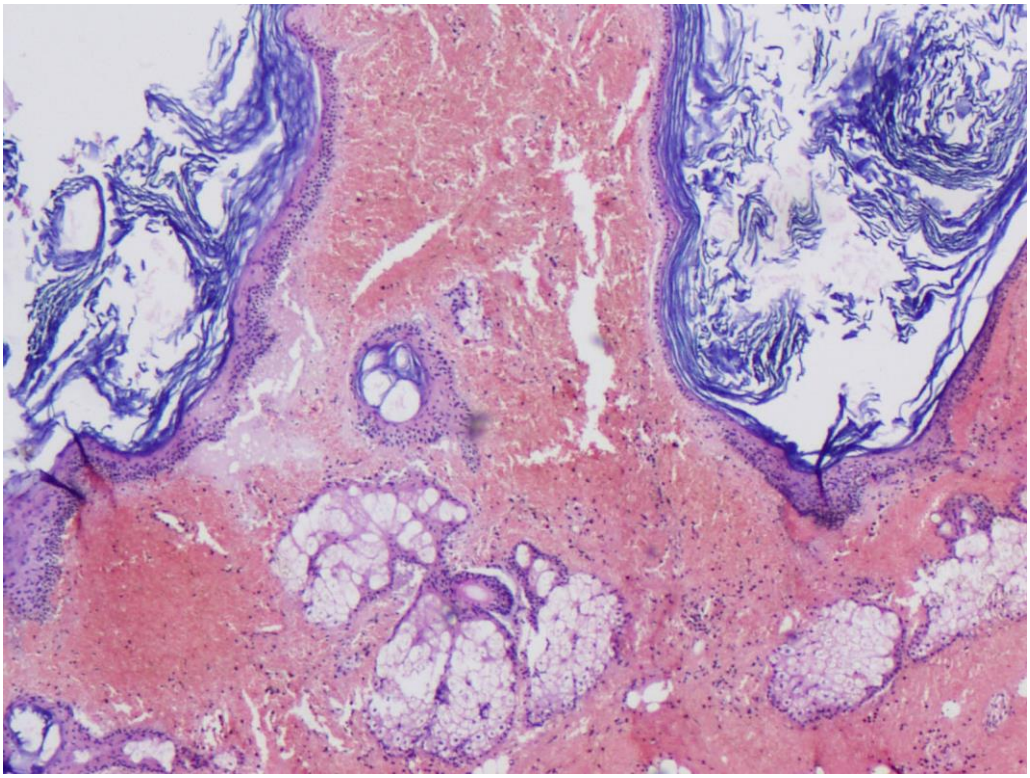

Figure 2: Cyst wall lined by squamous layer and luminal keratin flakes overlying sebaceous glands H &E X40

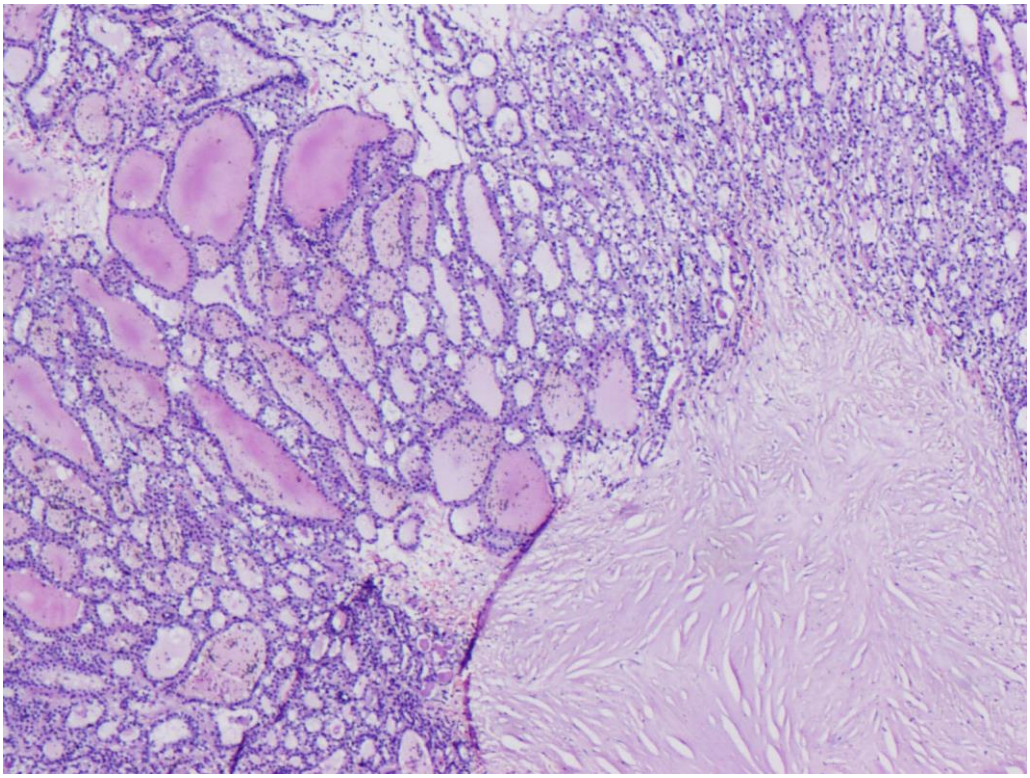

Figure 3: Fibro collagenous stroma shows colloid filled thyroid follicles, sheets of foamy macrophages and cholesterol clefts H&E X40

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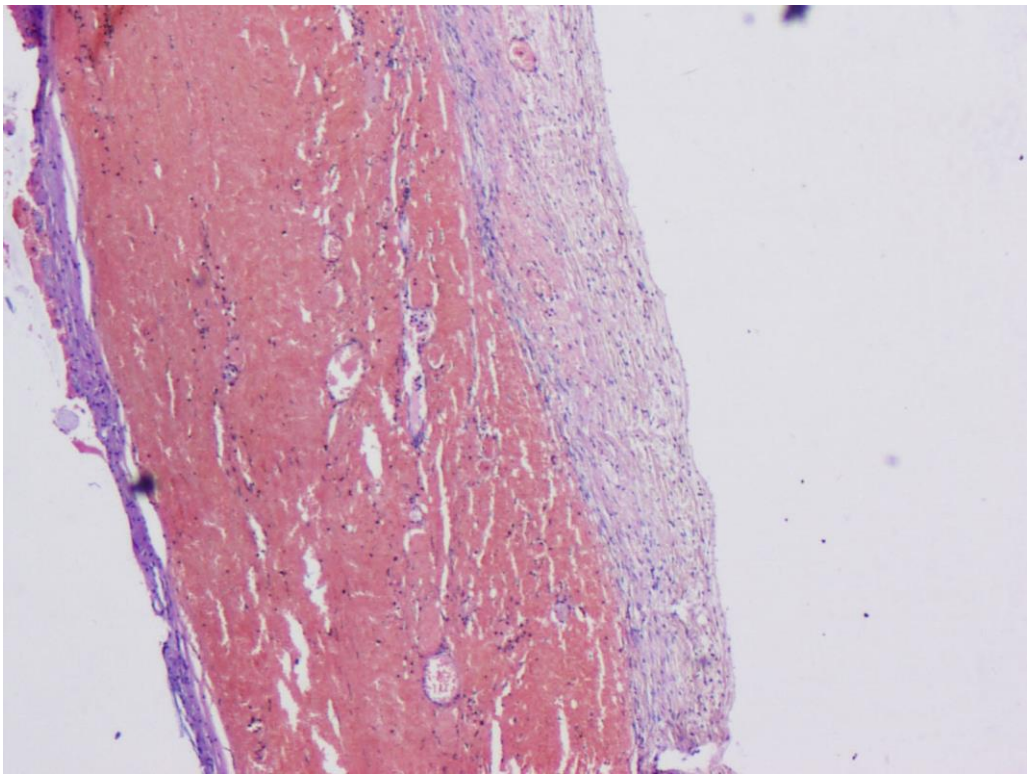

Figure 4: Focally preserved ovarian parenchyma at periphery H&E X40

DISCUSSION

Ovarian torsion occurs due to twisting of the ovary on its ligamentous supports resulting in a compromised blood supply. This is commonly encountered in large cysts and cystic neoplasms. It is rare to see ovarian torsion from cysts smaller than 5 cm [2,3].

Teratoma is an encapsulated tumor with components derived from more than one germ cell layer. It is said to arise from the totipotent cells and are midline or paraxial. Gonads are the second common site for development of teratomas and constitutes 29% of all the cases [6]. If the neoplastic component is uniformly mature, it is called mature teratoma, however the presence of any immature tissue warrants a designation of immature teratoma. At times the tumor is exclusively composed of single endodermal or ectodermal type of tissue, and it is referred as monodermalteratomas.

Usually ovarian teratomas are asymptomatic and discovered incidentally. According to a study on ovarian teratomas 44% of patients present with lower abdominal pain, 25% with a mass or swelling,40% with symptoms of acute abdomen and 21% of the cases were found incidentally [7].Torsion is found to occur most frequently in dermoid cyst among all other ovarian tumors, probably because of their high fat content, which makes them float in pelvis. The risk of torsion occurring in ovarian teratoma is nearly 15% [8]. About 70% of ovarian torsion occurs on the right side, perhaps due to longer utero-ovarian ligament on this side and the limited available space due to the presence of sigmoid colon on left side [1]. Mature teratomas are generally benign but can have complications which include torsion (16%), malignant transformation (1-2%), rupture (1-2%) and infection (1%) [9].Spontaneous rupture is however rare due to thick wall and adhesions, however an unusual case of left ovarian teratoma rupturing into sigmoid colon has been reported [6]. Teratoma associated with autoimmune haemolyticanaemia and generalised pruritisdue to an antibody mediated response by the release of antigenic content into general circulation have also been reported [10,11].

The clinical diagnosis of torsion of ovarian teratoma can be challenging because of the variable symptoms of presentations. Even on ultrasonography they may have a variety of appearances, characterised by echogenic sebaceous material and calcifications. At computed tomography, fat attenuation within a cyst is diagnostic. At magnetic resonance imaging the sebaceous component is specifically identified with fat

saturation techniques. The gross pathology examination is characteristic and shows unilocularcysts in 88% of cases, filled with sebaceous material and with a raised protuberance projecting into cyst cavity called as the Rokitanskyprotuberance. When bone and teeth are present, they tend to be located within this nodule. On histologydifferent ectodermal, mesodermal and endodermal tissues are identified in the cyst [4].

Laparoscopic removal of ovarian teratoma is preferred treatment option. Laparotomy is reserved for very large cysts usually exceeding 15 cm diameter [11]. As far as ovarian torsion is concerned, radical treatment by adnexectomy was the standard approach in cases of necrosis. This results in the loss of the ovarian function thereby reduction in fertility, hence a more conservative approach consisting of untwisting the adnexa followed by cystectomy or cyst aspiration has been reported [1].

CONCLUSION

This case emphasizes the variable presentations of ovarian teratoma. High index of clinical suspicion along with radiology and histopathologyis required for precise diagnosis. On histopathology we strongly recommend that all the large and small cysts should be dissected properly to look for the contents in cases of ovarian torsion.

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