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A RARE PRESENTATION OF TWISTED OVARIAN CYST AS ADNEXAL TORSION SECONDARY TO SEROUS CYSTADENOMA IN A VICENARIAN- A CASE REPORT AND REVIEW OF LITERATURE.

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ABSTRACT Torsion of Ovarian cyst may occur in females of all age group, most commonly occurs in childbearing age group women. Majority of these masses are benign in a Reproductive age group women but malignancy also should be considered in a differential diagnosis. The reported incidence of ovarian torsion 3% of all Gynaecological emergencies, 5.9 per 1,00,000 women of all ages and 9.9 per 1,00,000 women of Reproductive ages(15-45). Torsion can also occur in normal ovaries with incidence ranges from 16% to 49%. Serous cystadenomas may occur in all ages, but most common between 40-60 years of age, with incidence of 18% to 49.1%.We hereby report a case of twisted ovarian cyst in a 22 year old Unmarried woman presented as Adnexal torsion secondary to Serous Cystadenoma on histology.

KEYWORDS : Ovarian Torsion, Adnexal mass, Neoplasms, Serous cystadenoma , Ovarian cyst, Hormonal contraceptives.

INTRODUCTION

Ovarian Serous cystadenoma are benign tumors with prevalence of 25% of all benign neoplasms and accounts for 58% of all serous ovarian tumors.[1] Ovarian torsion or Adnexal torsion is a gynaecological surgical emergency, typically affects Reproductive age women group between 29 to 34 years.[1'2] Adnexal torsion is characterized by complete or partial rotation of ovary along with fallopian tube on its ligaments supports. The reported incidence of ovarian torsion 3% of all Gynaecological emergencies, 5.9 per 1,00,000 women of all ages and 9.9 per 1,00,000 women of Reproductive ages(15-45).[1'2] Torsion can also occur in normal ovaries with incidence ranges from 16% to 49%.[2] Early diagnosis of adnexal torsion prevents ischaemia or infarction of ovary and fallopian tubes. Adnexal torsions are associated with 48% of ovarian cysts and 46% of neoplasms.[3] Of these masses,89% of cases are Benign in nature with an 80% incidence rate in premenopausal age group.[1'3] Commonly associated risk factors are intra-ovarian lesions(cyst/ enlargement) of size >4-5cm(50-80%), ovulation induction drugs, Previous pelvis surgeries, Pregnancy. Apparently 17% of all adnexal torsion were associated with intraovarian lesions like corpus luteal cyst, Follicular Cyst, Dermoid cyst, teratomas, which act as a leading point for torsion.[3] Also, intraovarian lesions in association with malignancy, endometriosis or infection make periovarian adhesions and reduces the chances of torsion.

The clinical presentation of adnexal torsion includes acute abdominal pain, unilateral pelvic pain, nausea vomiting, fever, abdominal distention, changes in irregular menstrual cycles and palpable abdominal mass. Differential diagnosis for adnexal torsion includes Ruptured Ectopic pregnancy, Acute Appendicitis, Ruptured ovarian cysts, Ovarian Hyper stimulation syndrome, Diverticulitis, Renal calculi and Tubo-ovarian abscesses.[4]

We hereby report a case of twisted large ovarian cyst presented as Adnexal torsion secondary to Serous Cystadenoma on histology. We also present a literature review on Serous cystadenoma and Adnexal torsion in reproductive age woman.

Case Report

A case of 22 years old Unmarried woman, came to our Obstetric casualty with complaints of abdominal pain for 3 days , associated with 2 episodes of vomiting and fever. Two days before admission, she was conservatively treated for similar complaints in a private clinic. She had no previous history of abdominal trauma or surgeries. She attained menarche at 14 years of age, regular menstrual cycles, every 28 days with 5days of flow. She had irregular menstrual cycles for past one year, every 60 days with 2 days of flow and was diagnosed to have left ovarian cyst of size 5×5 cm in ultrasound abdomen. She was treated with hormonal contraceptives for 3 consecutive cycles. She had normal regular cycles after intake of hormonal contraceptives for 3 cycles. But, the size of ovarian cyst was increased to 8×6 cm with a volume of 93 cc, for which ovarian cyst aspiration was done in a private clinic. She had no other menstrual irregularities such as dysmenorrhea or intermenstrual bleeding. She had no significant family history. On general examination, her BMI was 20, Pulse rate of 110/ min, Blood pressure-100/70 mmHg, Spo2-100% in Room Air, Respiratory rate -18/ min, Temperature- 100°F. She was pale, dehydrated, not icteric, no pedal edema and lymphadenopathy. On Abdominal examination, abdomen was distended to 20 weeks size mass, guarding, rigidity, tenderness were noted. External genitalia examination appears to be normal for her age. Emergency investigations were sent which included complete blood count (CBC) – Haemoglobin level of 10.1g/dl, Total count of 17,300/mm^3, Platelet count of 186,000/mm^3, Bleeding time 2min 20sec, Clotting time 4 mins , meanwhile she was stabilized with intravenous fluids, analgesics and antibiotics. An Emergency Trans abdominal Ultrasound with Doppler velocimetry was done. An left adnexal mass of size 10×8cm hyperechoic area , without internal vascularity was observed with free fluid in Pouch of Doughlas. The patient's Uterus and Right ovary was normal. A provisional diagnosis of Left ovarian torsion was made and she was taken up for Emergency Laparotomy. Intraoperatively, a gangrenous mass of size 10× 8 cm was originated from left ovarian region with 2.75 turns of pedicle of cyst, left fallopian tube was adherent and stretched out over left ovarian cyst, 100 ml of haemoperitoneum, Right fallopian tube and ovary was normal, Uterus size was observed to be normal, with no signs of endometriosis. Emergency Laparotomy was proceeded to Left salphingo oophorectomy and 1 unit of packed RBC was transfused intraoperatively. Postoperative period was uneventful and was discharged on postoperative day 5.CA 125 value was 11.1 U/ml. The Histopathological findings were reported as infarcted ovarian cyst with fallopian tube and the cyst was lined by low cuboidal epithelium with papillary configurations, fresh and old haemorrhages were noted with

fibrous proliferation which are consistent with features of Benign serous cystadenoma with torsion. Peritoneal fluid cytology report shows RBCs, histiocytes with no malignant cells.

Figure 1. Intraoperative Findings of Left Adnexal Mass.

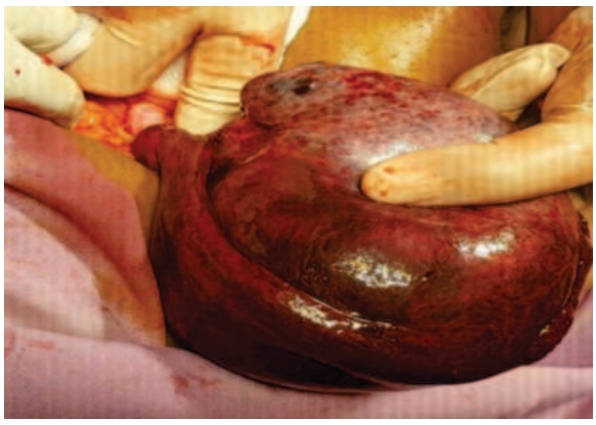

Figure 2. Twisted Left Ovarian Cyst of 2.75 Turns

Figure 3. Intraoperative Findings of Right Fallopian Tube and Ovary with Uterus.

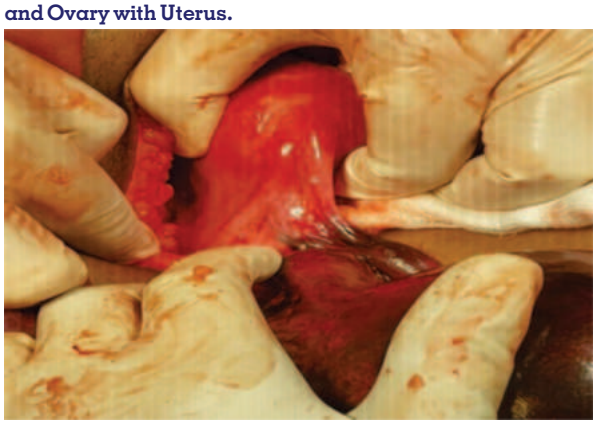

Figure 4. Extent of Left Ovarian Cyst.

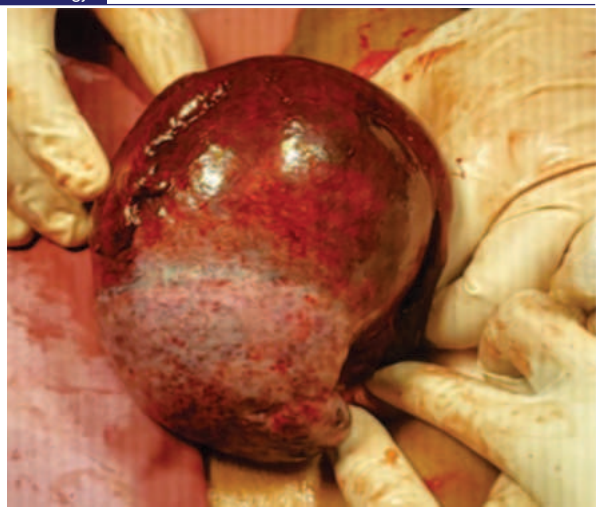

Figure 5. Left Adnexal Mass

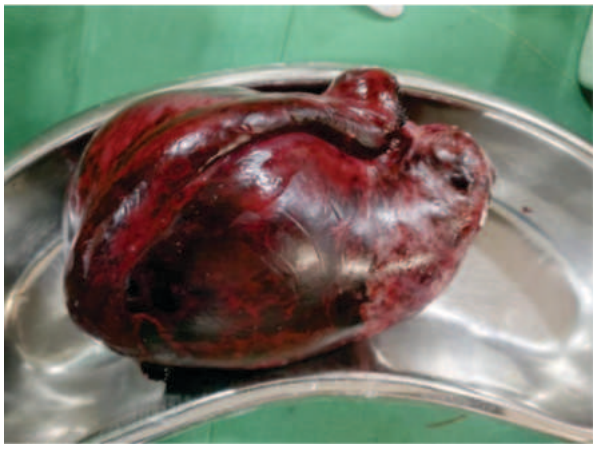

Figure 6. Specimen Showing Left Ovarian Mass with Stretched Out Fallopian Tube.

DISCUSSION

The enlargement of ovary may occur at any age, consistency may be either cystic or solid. During childbearing age, ovarian enlargement is either due to inflammatory or functional changes. Spontaneous resolution of follicular cysts usually occurs within 4-8 weeks or use of hormonal contraceptives resolves persistent cysts in most cases. If any cyst persists for more than 3 months or size increases >7cm, it needs further evaluation to rule out malignancy. Differential diagnosis of ovarian cyst includes functional cysts, omental cysts, mesenteric cysts, retroperitoneal cyst like pancreatic pseudocysts, urinary retention, bladder diverticulum, hydronephrosis, cystic lymphangiomas, choledochal cysts, splenic cysts, multicystic dysplastic kidney, gastrointestinal duplication cysts and large uterine tumors.[1,3]

Ovarian neoplasm is a complex wide spectrum of malignant disorders, involving a wide variety of histological tissues ranging from epithelial tissues, connective tissue, hormone secreting cells, germinal and embryonal cells. Ovaries are the most common sites for epithelial tumors(arise from mesoepithelial surface cells on ovary), sex cord stromal tumors and germ cell tumors.

Ovarian neoplasm in younger age(<25 years) are mostly due to germ cell origin, whereas in adolescent and post-menopausal women it is more often malignant. Of all these neoplasm, Epithelial ovarian neoplasm constitutes 80%, with most common histological type of papillary serous cystadenomas and carcinomas accounting for 50%, Mucinous tumor for 12-15% incidence , 10% for clear cell and endometrioid type, 25-27% of cases accounting for

unspecified types.[4] The most common cystic ovarian neoplasms are Serous cystadenoma and cyst adenocarcinoma constitutes 50% of all ovarian tumors, of these 20-25% of tumors were malignant, 15% were borderline and 60-70% were benign in nature.[4] Serous cystadenomas can occur at any age but most commonly occurs in 40-60 years of age, often it is bilateral. It can occur even in normal ovaries, small cysts, multilocular and are mostly left sided as in our case. Most of the ovarian serous tumors are thin walled, often filled with straw coloured fluids, with few papillary projections.

The clinical presentation of these tumors in young age produces non specific symptoms like nausea, vomiting, abdominal pain, abdominal discomfort or distension, Menstrual irregularities and urogenital symptoms like dysuria, increased urinary frequency, urinary retention, constipation, weight loss, dyspnoea, orthopnoea, ascites, supine hypotension, hydronephrosis, or pleural effusion.[5] As per Young et al, Ciftci et al, Sujatha et al study reports diagnosing ovarian tumors in young age needs complete evaluation including per rectal examination, imaging modalities such as Ultrasonography, Magnetic Resonance Imaging and CT abdomen helps in confirming the diagnosis. [6][7][8]

Enlarged ovaries are more frequently associated with complications like torsion, rupture and haemorrhage. Ovarian torsion usually occurs with torsion of fallopian tube , broad ligament, sometimes ovary may rotates around the mesoovarium or fallopian tube may rotates around the meso salphinx. Almost 80% of torsion happens unilaterally with right side predominance.[9] Based on patient's age, menopausal status, size, structure of cyst, surgical management may differ such as detorsion in torsion cases, intact removal of cyst, cyst excision, cystectomy with oophorectomy either by laparoscopic approach or laparotomy. In some cases, frozen section from contralateral ovary decides its removal. Diagnostic Laparoscopy can be useful in cases of uncertain etiology, but chance of rupture or associated complications were reported in few cases. For huge ovarian mass, unilateral salphingo oophorectomy is commonly considered.

As per Hunter et al, study report, decompression of ovarian cyst gradually, prevents capsular rupture of cyst and its Intraperitoneal spillage of cystic components. If tumor is malignant, paracentesis could results in seedling of tumor cells in peritoneal cavity, infection, bleeding and peritoneal adhesions.[9] In some cases, Recurrence may occur in contralateral ovary, so it's very difficult to follow up over the long term. Early diagnosis and detailed evaluation in a women associated with features of chronic, persistent or intermittent pain precludes complete removal of ovary.

Oltmann et al study reported that twisted ovaries in young woman or ovarian mass of size > 8cm is associated with 1.8% of malignancy rate.[10] As per Kiechl- Kohlendorfer et al., study, a case series of 12 adolescent girls (<17 years of age) diagnosis of ovarian torsion made with the help of Pelvic sonography with color Doppler showed features of enlarged ovary with peripheral cysts. Also, presence of fluid debris is a sign of ovarian torsion with or without associated teratoma, can be detected by high resolution sonography.[11] Our case findings were consistent with Badin et al study which revealed that presence of free fluid in Pouch of Doughlas is a clue to the diagnosis of Ovarian torsion. Other findings suggestive of adnexal torsion are enlarged ovary with or without tubal edema, ovarian blood flow in Doppler, free fluid in cul de sac and whirlpool sign(clockwise or anticlockwise wrapping of hypoechoic vessels around the central axis with or without internal vascularity).[12]

In acute emergency conditions, CT, MRI and Tumor markers are not routinely recommended because of its cost and also the technology is not readily available in all centres. Tumor markers like beta HCG, alpha fetoprotein(AFP),Cancer Antigen (CA 125) are significantly elevated in ovarian malignancy.

Emergency surgery with oophorectomy is the procedure of choice for gangrenous ovary, whereas the appearance should not decide ovarian resection. However, the conservative surgery for torsion is detorsion of affected ovary with enucleation. As per ACOG recommendations and Alberto et al study, ovarian detorsion and preservation is highly recommended for all cases who desires fertility preservation.[13] McGovern et al study suggested that 379 cases of adnexal torsion were conservatively managed with detorsion with or without cystectomy oophoropexy/ ovariopexy/ cyst aspiration.The incidence of Pulmonary embolism is higher in cases of resection of adnexal mass without untwisting than detorsion of twisted ovarian cyst.[14]

Abes et al study suggested that oophoropexy in both affected and contralateral ovaries will be beneficial in young woman and it reduces the recurrence of torsion in contralateral ovary and complications.[15] The recurrence rate of Serous cystadenomas are rare but it should be considered in future, either it may be due to incomplete resection or development of new benign tumor. [16]

Oltmann et al study reported that incidence of malignancy is 1.8% in 707 cases of Ovarian torsion, which includes dysgerminomas, juvenile granulosa cell tumors, borderline serous tumors and adenocarcinoma of undifferentiated type.[17] Although, prognosis is good in young patients who had torsion ovary. Spontaneous pregnancy can occur in cases who had undergone ovarian detorsion and oocyte retrieval from previously twisted ovaries.

CONCLUSION

Huge cyst in young age may twist and undergo gangrenous changes any time,hence diagnosis of torsion should not be delayed in cases with non specific symptoms of torsion ovary. Also, the preferred surgical management should be detorsion rather than oophorectomy in young patients because the ovary may retain viability after detorsion and malignancy risk is low. So prompt diagnosis and management in young patients, preserves fertility in future.

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