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Case Report

Large Ovarian Benign Serous Cystadenoma

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ABSTRACT

Large abdomino-pelvic masses pose diagnostic and management challenges. Ovarian neoplasm can be benign or malignant. Early identification of ovarian tumor is important. Complications other than malignancy also impart urgency in diagnosis and management of ovarian tumors. Torsion, haemorrhage, obstruction are all potential problems in women carrying a large benign ovarian tumor. Diagnosis of neoplasticlesions requires correlation between clinical, gross and microscopic features.
Pathology of ovarian tumors is most complex and heterogenous. We are presenting a case of large ovarian tumor operated at ACPM Medical College, Dhule (India). Large ovarian tumor was diagnosed as benign serous cystadenoma.

Key words: Ovarian Tumours, Benign, Serous cystadenoma

INTRODUCTION

Gynecologist are often confronted with the dilemmas that pose diagnostic and management challenges in differentiating the various abdomino-pelvic masses. The Differential diagnosis of Abdominal pelvic mass is variable because abnormality may arise from Gynaec or non-Gynaecological origin. Ovarian tumors are one of the major problem confronting the general practitioner in general and gynaecologist in particular. Diagnosis of neoplastic ovarian lesions require correlation between clinical, gross and microscopy features as the morphologic diversity of ovarian tumors poses many challenges [(1)]

The most remarkable descriptions of large ovarian cysts are those of Spohn, who in 1922 reported one that weighed 148.6 kg (328 lb), and of Symmonds, who in 1963 reported encountering one that weighed 79.4 kg (175 lb) Such descriptions were among the curiosities reported in the 19th and early 20th centuries. They have become rarer as imaging modalities improve and diagnoses are made earlier [(2)]

We are presenting a large Ovarian tumour operated at ACPM Medical college, Dhule, (INDIA) A 48 yrs. old female came in OPD with complaint of distension of abdomen and pain since 3 months , excessive p/v bleeding with pain since 1 Yr.
Past menstrual history: irregular, excessive, painful, 8-10 days duration of flow, cycle of 20 days since 1 year.1 year back, menstrual cycle was normal.

Bowel /bladder /sleep unaltered.

Obstetric history: She is having 4 living children, all FTND hospital delivery. Tubectomy was done 23 years back.

Past history: No significant medical and surgical.

Family history: not significant.

General examination: GC-fair, afebrile, Pulse-80/min, BP-Normotensive.

No Lymphadenopathy, icterus, clubbing.

Systemic examination: CNS, CVS, RSwere normal.

P/A -inspection –Distension+, stretch marks+,TL scar healthy , no dilated veins. Straight leg raising test:swelling become less prominent on leg raising test suggestive of intra-abdominal / retroperitoneal swelling.

Palpation- 24 –26 wks distended tense fluid filed mass felt, fluid thrill+, tenderness..present

Auscultation- Bowel sounds+

P/Sp-Cervix andvagina was healthy.

P/V - uterus was posterior , mobile, normal size .Large cystic mass felt through Rt fornix extending into abdomen

P/R-uterus and acystic mass was felt.

Investigations

Hb-8.3gms%, wbc-7200/cmm, N65, L31E02 M02 B-00

BT-3.35min CT-4.10min, blood group B+ve

BSL-90.2mg/dl, HBsAg negative,HIV–Negative

Urine–normal

USG-large cyst was seen arising from pelvis on right side extending up to lumber region of size 24*18*11cm,Multiloculated with thin septae. Solid areas not seen. Right ovary was not seen separately, s/o right ovarian cyst. Left ovary was normal.

CA-125 was 2.89 U/ml

CXR and ECG-WNL.

One BT was given preoperatively. Pt was posted for laparotomy after fitness. On table finding: a midline incision extending over umbilicus was taken. A huge cyst with pearly white sheath slowly protruded out. Uterus was found separate along with left ovary and tube. Pedicle of cyst was thickened, vascular and no trace of right ovary was found. Right tube was present. This suggested that mass was arising from right ovary. Cystectomy on right side was done. Pedicle was clamped, cut and lighted. Cystic mass of 5 kg weight extracted. Abdominal hysterectomy with left sided salpingo-oophorectomy done .Pt recovered fully without any intraoperative and postoperative complications.

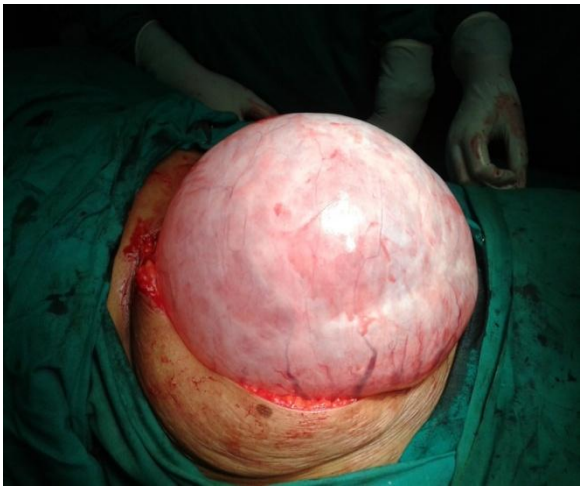

Fig 1. Ovarian cyst at laparotomy.

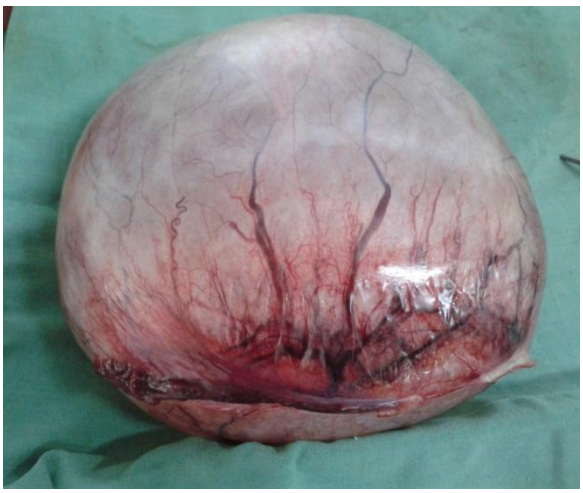

Fig 2. Intact specimen of large ovarian tumour.

Histopathological Report

Endometrium: Stromal Hyperplasia
Right Ovary:Benign Serous Cystadenoma of ovary
Left ovary: Theca Lutein cyst with congestion
Cervix: Papillary endocervicitis and multiple Nabothian cysts

DISCUSSION

Pathology of ovarian tumours is most complex and ovarian cancers are notoriously Heterogeneous.[3] The single most common benign ovarian neoplasm is the benign cystic teratoma; however, according to some studies it is serous cyst adenoma.[2] In a study conducted by Kuldeepa and Mudegowda from Davengere(India) , the commonest type of tumors encountered were epithelial tumors followed by germ cell tumors.[1] Surface epithelial ovarian tumours constitute 70% of the ovarian tumours.Benign serous tumors include cyst adenomas, adenofibromas, cyst adenofibromas and surface papillomas Benign serous cystadenoma is the tumour of the ovary arising from the surface epithelium that resembles the mucosa of the Oviduct.[4]

The serous tumors are bilateral in about 10% of cases. Of all serous tumours, about 70% are benign, 5-10% has borderline malignant potential and 20-25% is malignant, depending largely on the patient's age. They tend to be multilocular but unilocular serous cyst adenomas are not uncommon.[2] Papillary projections may be present. Tumour is lined by columnar / cuboidal epithelium. Tumour is filled with thin clear, yellowish fluid.[5]

Serous tumors rarely occur in combination with germ cell tumors, sex-cord stromal tumors or granulosa cell tumors. Thus it is extremely rare for a combination of the above two tumors to occur before 21 years, although a case report for a tumor with epithelial, stromal and sex-cord stromal elements for a 58-year-old patient has been documented. The more common combinations of ovarian tumors encountered are with mucinous cystadenoma in which a combination of Brenner tumor, mature cystic teratoma, Sertoli-Leydig cell tumor, or even a serous cystadenoma may be seen[6]

Size of the tumour may give clue regarding the nature of the mass. The larger tumours, usually greater than 8 cm in size have been thought to be associated with higher risk of malignancy in comparison to smaller one.[7] So, presence of pelvic mass at clinical evaluation is an important sign of possible ovarian cancer.[8] The three screening techniques available at this time (pelvic examination, CA-125 level, and vaginal ultrasound) do not actually diagnose ovarian cancer but only suggest its presence; laparotomy is required for definitive diagnosis.[9]

Ovarian serous cystadenomas are common ovarian lesions that may be precursors of serous borderline tumors, which can in turn progress to low-grade serous carcinomas. It has been shown that low-grade serous carcinoma and serous borderline tumors are characterized by frequent mutations in BRAF or KRAS genes. Eric J Cheng and, Robert J Kurman from Baltimore had done Molecular genetic analysis of ovarian serous cystadenomas they isolated cyst-lining epithelium from 30 consecutive serous cystadenomas, and analyzed their BRAF and KRAS mutational status. Their data indicate that serous cystadenomas do not contain mutations in either BRAF or KRAS genes and that most serous cystadenomas are polyclonal. [10]

The epithelial cells of these cystadenomas do proliferate, albeit at a very low rate, suggest that the development of a nonclonal serous cyst is a hyperplastic process. The mechanism underlying

increased proliferative activity in the cyst-lining epithelium as compared to the ovarian surface epithelium is unknown, but it may be related to the sustained hydrostatic pressure that has been shown to induce cellular proliferation. It is apparent that not all serous inclusion cysts will progress to large cysts and further studies are required to investigate the growth kinetics of cysts and molecular mechanisms underlying their development. It appears that serous cystadenoma develop as a hyperplastic expansion from epithelail inclusions with a clonal/neoplastic occurring in a subset of them.[10]

The serum CA125 level has been widely used as a marker for a possible epithelial ovarian cancer in the primary assessment of a suspect adnexal mass in this setting, false-positive results may derive from several conditions, such as endometriosis, adenomyosis, pelvic inflammatory disease, menstruation, uterine fibroids or benign cysts. In a retrospective analysis of serum samples from 5550 women who were enrolled in a population-based registry in Sweden, 175 women had elevated CA125 values.[9]

Transvaginal ultrasonography is often included among the procedures for the evaluation of a pelvic mass. Features highly suggestive of advanced ovarian cancer are the presence of a complex ovarian mass, with both solid and cystic components, sometimes with internal echoes and/or septations, ascites or evidence of peritoneal metastases in the presence of an ovarian mass. The goal of imaging in ovarian cancer detection is to expeditiously distinguish benign adnexal lesions from those requiring further pathological evaluation for malignancy. For lesions indeterminate on ultrasound, MRI increases the specificity of the imaging evaluation, thus decreasing benign resections. CT is useful in diagnosis and treatment planning of advanced cancer.[9]

In diagnostic approach, next to ultrasound, colourflow Doppler is useful for distinguishing between benign and potentially malignant lesions. The rationale of the use of color Doppler is related to the fact that during the fast growth, the tumor spread through the neo-angiogenesis, characterized by a poor smooth muscular component: blood flow resistance in these vessels is less than that found out in vessel with normal wall components. Color/power Doppler study of an ovarian mass enables to identify also small size vessel, characterized by slow flow and to define appearance, distribution and architecture.[11]

The framework of the IOTA (International OvarianTumor Analysis) Study simple ultrasound based rules was developed to correctly classify as benign or malignant adnexal tumors. They selected five simple rules to predict malignancy (M-rules):

1. Irregular solid tumor;
2. Ascites
3. At least four papillary structures
4. Irregular multilocularsolid tumor with a largest diameter of at least 10cm
5. Very high color content on color Doppler

Five simple rules to suggest a benign tumor (B-rules)

1. Unilocular cyst
2. Presence of solid components where the largest solid component is < 7 mm in largest diameter
3. Acoustic shadows
4. Smooth multilocular tumor less than 10 cm in largest diameter
5. No detectable blood flow on Doppler examination.[11]

On abdominal palpation, the upper and lateral limits of the tumour can be defined. However, in most of the cases, it is

impossible to identify the lower tumor except in small tumor with long pedicle Cardinal sign which helps in distinguishing ovarian tumor from uterine tumor is that , when the ovarian tumor is raised by the abdominal hand, the cervix remains stationary to the vaginal fingers. However, in case of mass of uterine origin, rising up of tumor by abdominal hand , results in simultaneous movement of the vaginal fornices.[7]

Differential Diagnosis [12]

An ovarian neoplasm has to be distinguished from all other abdominopelvic tumours:

- Uterine leioma
- Broad LigamentTumours
- Pelvic abscess
- Ascites
- Mesentric cyst
- Retroperitoneal Tumour

Up to 10% of women will have some form of surgery during their lifetime for the presence of an ovarian mass. In premenopausal women almost all ovarian masses and cysts are benign. The overall incidence of asymptomatic ovarian cyst in a premenopausal female being malignant is approximately 1:1000 increasing to3:1000 at the age of 50.

A thorough medical history should be taken from the woman with specific attention to risk factors or protective factors for ovarian malignancy and a family history of ovarian or breast cancer. Symptoms suggestive of endometriosis should be specifically considered along with any symptoms suggesting possible ovarian malignancy: persistent abdominal distension, appetite change including increased satiety, pelvic or abdominal pain, increased urinary urgency and/or frequency.

In the acute presentation with pain the diagnosis of accident to the ovarian cyst should be considered (torsion, rupture, haemorrhage). Although clinical examination has poor sensitivity in the detection of ovarian masses (15–51%) its importance lies in the evaluation of mass tenderness, mobility, nodularity and ascites.[13]

The need to differentiate benign from malignant neoplasm is obvious, early identification of ovarian tumor is important. Complications other than malignancy also impart a certain urgency and weight to the consideration of ovarian tumor. Torsion haemorrhage, obstruction are all potential problems in women carrying a large ,benign ovarian tumor. Timely, accurate diagnosis of an abdominopelvic mass can save the patient from complications due to both to excessive or inappropriate testing.[14]

Our patient had delayed reaching the hospital, due to financial constraints and did not want to take the risk of surgery and approached us only after it was totally debilitating.

CONCLUSION

All rapidly growing ovarian masses are not life threatening, they can be well managed by cystectomy with or without Hysterectomy. Decision is based on age, menstrual complaints and intraoperative findings.

Number of various clinical parameters such as

- Age of the woman
- Presenting complaint
- Location of lump
- Histological type of Ovarian Neoplasm, are interrelated.

All these clinical and histological parameters help to plan the line of treatment and also have prognostic significance.

Because of geographic location, poverty, illiteracy, patients seek medical advice late in rural setup. Education of people, surveillance and community

screening facility will be helpful in early detection of ovarian lesions and tumors Investments in prevention will lower the costs of diagnosis and treatment of these diseases. Health care providers and the media - must advice women of these opportunities. Without this information, women cannot make truly informed decisions about their health.

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