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"RADIOLOGICAL EVALUATION OF OVARIAN CYSTADENOMA".

Radiology

Dr. Harshita Kothari* Third Year Resident , Department Of Radio-diagnosis, Smt. B'K Shah Medical.*Corresponding Author

Dr. Tushar Vaishnav Professor And , Department Of Radio-diagnosis, Smt. B'K Shah Medical'institute & Research Centre, Sumandeep'vidyapeeth'deemed To Be University, Vadodara.

Dr. Chetna Duhan Third Year Resident , Department Of Radio-diagnosis, Smt. B'K Shah Medical Institute & Research'centre, Sumandeep'vidyapeeth'deemed To Be University,vadodara.

ABSTRACT

BACKGROUND: Ovarian Cystadenoma is one of the most common ovarian neoplasm. 60% of all ovarian neoplasms are ovarian cystadenoma. They are seen in middle age women, typically at the age of 40-50 years .

MATERIALS AND METHODS: Patients presented to Radiology department with known case of immature or mature teratoma of ovary or in whom accidental diagnosis of ovarian cystadenoma was made eventually. Evaluation of ovarian cystadenoma with Ultrasound machine (Logiq P9 GE), CT scan Siemens(16 slice) & MRI Philips (1.5 Tim + dot system).

RESULTS: In our study we found that 30 (100%) patients having ovarian cystadenoma, 24 (80%) patients are of age group 31years to 40 years, 4(16%) patients are of 41-60 years and 2(4%) patients are of 0-20 year age group.In diagnosis of ovarian cystadenoma out results say that CT scan is more sensitive(96%) than USG (92% sensitivity) .

CONCLUSION: Detection And Morphological characterization of ovarian cystadenoma can be easily by ultrasound. MRI and CT scan are useful adjunct to sonography in its characterization and detection of associated pathology. USG shows unilocular cystic/anechoic cystic mass, some lesions may show septations and no flow on color doppler.

KEYWORDS

USG, Ovarian cystadenoma, cystic teratoma.

INTRODUCTION

Ovarian cystadenomas mainly composed of unilocular cysts containing clear watery fluid. The cysts size approx.. 10 cm in average diameter, sometimes may be extremely large. The lining of the cyst seen flat or small papillary projections.It is composed of a solitary layer of benign epithelium which resembles fallopian tube mucosa and may form papillary structures.

Ovarian cystadenoma is classified in 2 types:

1. Serous cystadenoma.
2. Mucinous cystadenoma

Serous cystadenoma:

Serous tumors of the ovary represent 16% of ovarian epithelial neoplasms and account for two-thirds of benign ovarian epithelial tumors and the majority of serous ovarian tumors. They occur mainly in adults, mean ages differing from 40 to 60 years. They are bilateral in most of the cases.

Mucinous cystadenoma:

Mucinous cystadenomas account for 80% of ovarian mucinous tumors. Mucinous cystadenomas of the ovary occur mainly in during the third to sixth decades. They are unilateral in most of the cases.

Serous cystadenoma:

Serous cystadenoma ranges from 1 to 30 cm in greatest dimension (mean = 10 cm). They show smooth outer surface with one or more thin-walled cysts filled with clear, watery fluid. They may be unilocular in appearance.

Serous cystadenomas are composed of cysts and papillae lined by non-stratified or stratified cuboidal to columnar cells resembling fallopian tube epithelium. Usually, there is no or minimal atypia.

The immunohistochemical profile of serous cystadenoma have p63 positive in most cases

Mucinous cystadenoma:

Mucinous cystadenomas show smooth surface and are multilocular. They have size from a few centimeters to 30 cm; with a mean of 10 cm.

Mucinous cystadenoma is made of multiple cysts and glands lined by simple non-stratified mucinous epithelium resembling gastric foveolar-type or intestinal epithelium containing goblet cells.

Patient of cysticadenoma are mostly asymptomatic but may present with complain of irregular menses or abdominal pain or nonspecific symptoms such as mass effect or displacing near by structures. They are slow growing tumors may be beingn or malignant. In management protocol they are only operated when they are more than 6 cms or they may cause major illness to patient[2].

Complications of ovarian cystadenoma are:

- Rupture
- Torsion
- Ovarian vein thrombophlebitis
- Malignant degeneration of cystadenoma.
- In imaging or radiological evaluation of ovarian cystadenoma, USG is used as screening modality which is more specific ,where as CT is used as confirmatory modality which is more sensitive. MRI findings can be also correlated with CT findings. In USG it is seen as unilocular cyst which is anechoic adnexal lesion. It sometimes shows septations and no color flow on doppler and shows high resitive index on spectral doppler.

AIMS AND OBJECTIVES

- To evaluate radiological appearance of ovarian cystadenoma by using noninvasive modalities (USG, CT , MRI).
- Imaging of various appearances of ovarian dermoidcystadenoma by modalities like USG , CT and MRI in early diagnosis and treatment.
- To correlate various findings of USG, CT and MRI.

MATERIALS AND METHODS

Study area

- The study in the Department of Radiodiagnosis, S.B.K.S. Medical Institute and Research Centre, Waghodia, Vadodara.

Study design:

- Type of the study: An Observational, Descriptive Hospital Based Study.
- Sample size: 30 patients.

Selection of subject:

INCLUSION CRITERIA:

- Only those patients who are willing to participate will be included.
- Already diagnosed cases of ovarian cystadenoma which need follow up radiological investigations and are referred to our radiology department will be included in study. Patients coming

for investigations for other gynaecological diseases(present with complaint of menstrual irregularities and abdominal pain with mass symptoms) , and are accidentally found to have ovarian cystadenoma, will be included in this study.

EXCLUSION CRITERIA:
All patients unwilling were excluded from this study.

Study protocol
30 Patients with known case of ovarian cystadenoma (Where the Patients had presented with symptoms of menstrual irregularities or abdominal pain or mass effect) are evaluated. All patient in this study of ovarian cystadenoma had undergone USG(Logiq P9 GE) and CT scan Siemens(16 slice).MRI Philips (1.5 Tim + dot system) were also taken when and where needed after taking informed consent.

RESULTS AND DISCUSSION
The present study was carried out at department of radio-diagnosis at S.B.K.S. medical college and DHIRAJ hospital of 30 Patients with ovarian cystadenoma were undergone USG & CT .The findings obtained by USG were compared with those of CT scan findings to determine accuracy of modality in diagnosis of ovarian dermoid.

Sr. no.	Age group(years)	Patients	Percentage
1	0-20	2	4%
2	21-40	4	16%
3	41-60	24	80%
total	0-60	30	100%

Out of 30 patients , 24 (80%) patients are of age group 41 to 60 years , 4 (16%) patients are of 21-40 years and 2(4%) Patient are of 0 to 20 years.

In figure 1,Out of 30 patients , 12 (40 %)patients were predominant complaint of abdominal pain, 4(16%) patients with predominant complaint of mass in abdomen , where as 7 (28%) patients with predominant complaint of mass effect , 3 (12%) patients with dysmenorrhoea , where as 1 (4%) patients with predominant complaint of infertility.

There we also compare the pathological diagnosis of ovarian cystadenoma with USG & CT scan findings and we concluded below results.

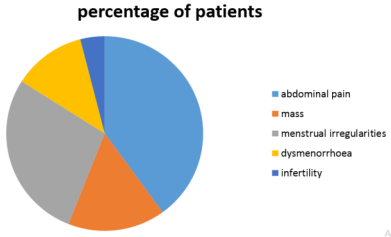
Pathological finding (Ovariancystadenoma)	Correctly diagnosed on USG	Correctly diagnosed on CT scan
30 patients	21 patients(92%)	28 patients(96%)

Out of 30 diagnosed cases of ovarian cystadenoma ,USG can easily diagnosed 21 (92%) patients where as CT scan can diagnosed 28(96%) patients. So we conclude that CT scan is more sensitive(sensitivity is 96%) to diagnose ovarian cystadenoma than USG(sensitivity is 92%).

CONCLUSION
Detection and morphological characterization of cystadenoma of ovary can be easily done on ultrasound. CT scan is useful adjunct to USG in its characterization and detection of associated pathology. Unilocuar(anechoic) detection (density less than 0 HU) is more diagnostic of ovarian cystadenoma on CT scan , where as sometimes septations seen in ovary are the characteristic USG findings of ovarian cystadenoma.

Ovarian cystadenoma is common along all age groups and very common in women of middle age group. We also conclude that patients of ovarian cystadenoma came with complaint of abdominal pain predominantly where as other complains(mass,menstrual irregularities , dysmenorrhoea , infertility) are less likely predominant. When we compare results of USG and CT scam with pathological findings , we conclude that CT scan is more sensitive to diagnose ovarian cystadenoma as compare to USG. In some atypical cases MRI is used for better characterization of ovarian cystadenoma .

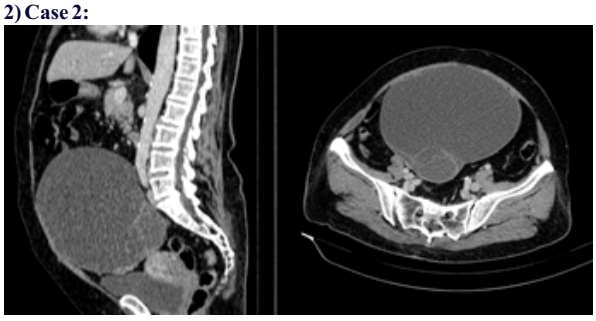
FIGURE-1



Images:
Case 1:

In 39 year old female presented with abdominal pain and mass ,Ultrasound shows a well defined heterogenously hypoechoic lesion with clear fluid level within it. The lesion did not show vascularity on color doppler.

2) Case 2:



In 42 year old female with complain of mass,**PLAIN CT** Pelvis axial view shows a well defined hypodense lesion with internal thin septa are noted within the lesion.

3) Case 3:
In 58 year old female with complaint of abdominal pain with mass effect symptoms ,

The above imaging findings are On T1W ,the areas appear hypointense signal suggestive of OVARIAN CYSTADENOMA within the lesion which were appearing hyperintense on T2WI.

4) Case 4:
46 year old female complaining of mass and menstrual irregularity , USG and CT scan done ,

In which findings are below.

Typical imaging features of ovarian cystadenocarcinoma include cystic adnexal mass with a substantial solid component sometimes showing calcification component within.