A study of ultrasonography findings in ovarian tumour at a tertiary health care centre

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Abstract
Background: Ovarian cancer has been described as a silent killer because it is often diagnosed only in advanced stages, when the disease has spread beyond the ovaries. Ultrasound can provide much information about size, location and structure of pelvic masses and hence it is one of the diagnostic modalities in ovarian cancer. **Aim and objective:** To study the findings of ultrasonography in patients with ovarian tumour **Methodology:** Present study is a prospective study carried out on 50 patients of ovarian tumours referred to radiology department at a tertiary health care centre. Sociodemographic data, clinical history and clinical examination findings were taken from OBGY department records. Ultrasonography findings were noted. Data analysed with appropriate statistical tests. **Results:** Majority of the patients 18(36%) were having cystic + solid consistency followed by cystic consistency 16(32%). Benign ovarian tumours were having cystic consistency (47.06%). Most of the malignant tumour were having both cystic and solid consistency (62.5%). Association between tumour type and ultrasonography finding was found to be significant (p<0.001).
Key Word: ovarian tumour.

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INTRODUCTION

The pathology of ovarian tumour is one of the most complex areas of gynaecology, because the ovaries give rise to greater range and variety of tumours than does any other organ. A female's risk at birth of having ovarian tumour sometime in her life is 6-7%, of having ovarian cancer is almost 1.5% and dying from ovarian cancer is 1%.[1] A number of non neoplastic and neoplastic lesion occur within the ovaries. They can present from the neonatal age to post menopausal age. Most are functional in nature and fade away with minimal treatment. However, ovarian cyst can herald an underlying malignant process. When cyst are large, persistent, or painful, surgery may be required.[2,3] Benign ovarian cysts are the commonest constituting about 90% of ovarian tumours. Ovarian tumours are generally difficult to detect until they are of advanced stage or large in size. Ultrasonography is a relatively simple and noninvasive diagnostic method that provides clinicians with useful information relevant for determining the optimal management strategy for a given patient. Previous studies observed that Ultrasonography can accurately characterize about 90% of adnexal masses and the reported sensitivity and specificity of US for detecting ovarian malignancies is 88%-96% and 90%-96%, respectively [4-6]. Most of the patients with ovarian cancer remain asymptomatic until the late stage or they present only with vague, non-specific abdominal complaints. By the time diagnosis is made, the malignancy is in advanced stage and very little can be done to improve the prognosis. In such a clinical scenario, there is a genuine need of reliable diagnostic technique for early detection of the ovarian tumour as well as little discrimination of benign and malignant tumours and proper surgical management followed by chemotherapy or radiotherapy should be given.

Aim and objective: To study the findings of ultrasonography in patients with ovarian tumour

MATERIAL AND METHODS

Present study is an observational study carried out at a tertiary health care centre. Study population was patients attending OPD of OBGY department NDMC medical college and Hindurao Hospital Malkaganj Delhi 110007 and referred to radiology department for ultrasonography during study period January 2019 to December 2019. Patients having solid ovarian mass and suspected of having ovarian tumour were enrolled in the study.

Inclusion criteria: 1. All patients with solid ovarian mass detected clinically 2. All patients with cystic ovarian lesions more than 6 cms.

Exclusion criteria: 1. Ovarian cyst less than 6 cms with clear cysts 2. Patients not willing to participate in the study Study was approved by ethical committee of the institute. A valid written consent was taken from the patients after explaining study to them.

All the patients admitted in the obstetrics and gynaecology department with ovarian tumour and referred to radiology department were studied. Data collected with pretested questionnaire. Data regarding sociodemographic data, clinical history and clinical examination were taken from records of OBGY department. All patients underwent ultrasonography of abdomen and pelvis. Ultrasound findings of the ovarian tumours were based on following features: 1.Bilateral lesion 2. Cystic mass 3.Evidence of solid areas 4. Cystic and solid masses 5. Evidence of metastasis. Data regarding histopathology of the tumour collected from department of OBGY.

Statistical analysis will be carried out with the help of SPSS (version 20) for Windows package (SPSS Science, Chicago, IL, USA).

RESULTS

In our study we studied 50 patients of ovarian tumour. In present study, most of the patients (36%) with ovarian tumour were in the age group 51 year old and above, followed by age group of 41-50 years (24%). Mean age of the patient was 46.34±3.2 years. Majority of the patients were para 2(30%) followed by para 3 (26%). Primipara patients were less (6%).

In our study, most common symptom was abdominal pain 46(92%) followed by abdominal mass 33(66%). Backache was seen 15(30%) patients. pressure symptoms were seen in 9(18%) patients. Pressure symptoms included increased frequency of micturation, retention of urine and GI symptoms like constipation. In present study, maximum cases were having unilateral ovarian tumours (64%). Table 3 showed findings of ultrasonography in ovarian tumour patients. Majority of the patients 18(36%) were having cystic + solid consistency followed by cystic consistency 16(32%). Solid consistency on ultrasonography were seen in 14(28%). Liver metastasis was seen in 2(4%) patients. Table 4 showed association of histopathological type of tumour and ultrasonography findings. In present study, based on ultrasonography findings most of the benign ovarian tumours were having cystic consistency (47.06%). Most of the malignant tumour were having both cystic and solid consistency (62.5%). 12.5% of the patients with malignant ovarian tumour had liver metastasis. Association between tumour type and ultrasonography finding was found to be significant (p<0.001).

Table 1: Distribution of patients of ovarian tumour according to symptoms

Symptom	Cases	Percentage
Abdominal Pain	46	92
Abdominal Mass	33	66
Backache	15	30
Pressure Symptoms	09	18

Table 2: Distribution of patients of ovarian tumour according to laterality

Lateraliy	Cases	Percentage
Unilateral	32	64
Bilateral	18	36
Total	**50**	**100**

Table 3: Distribution of patients of ovarian tumour according to USG findings

USG Finding	Cases	Percentage
Cystic	16	32
Solid	14	28
Cystic+ Solid	18	36
Liver Metastsis	02	04
Total	**50**	**100**

Table 4: Types of Tumours According to Ultrasonography Finding in patients with ovarian tumour

Type Of Tumour	Ultrasonographic Finding				Total
	Cystic	Solid	Cystic + Solid	Liver Metastasis	
Benign	16 (47.06%)	10 (29.41%)	08 (23.53%)	-	34(100%)
Malignant	-	04 (25%)	10 (62.5 %)	02 (12.5%)	16(100%)

Statistically significant p<0.05

DISCUSSION

In present study, most of the patients (36%) with ovarian tumour were in the age group 51 year old and above, followed by age group of 41-50 years (24%). Majority of the patients were para 2(30%) followed by para 3 (26%). Above finding is comparable to study by Kanthikar *et al..* [7] (27.74%) . In our study, most common symptom was abdominal pain 46(92%) followed by abdominal mass 33(66%). It is comparable to studies by Sumaira *et al..* [8] (70.59%), Tarek Ramadan Abbas *et al..* [9] (66.66%), Kanthikar *et al..* [7] (29.33%). Very few cases develop pressure symptoms like retention of urine, frequency of micturation, constipation in all studies. In present study, maximum cases were having unilateral ovarian tumours (64%). Majority of the patients 18(36%) were having cystic + solid consistency followed by cystic consistency 16(32%). Present study was compared with previous studies in table 5. In present study, based on ultrasonographic findings most of the benign ovarian tumours were having cystic consistency (47.06%). Most of the malignant tumour were having both cystic and solid consistency (62.5%). 12.5% of the patients with malignant ovarian tumour had liver metastasis. Association between tumour type and ultrasonographic finding was found to be significant (p<0.001). Present study was comparable with Prabhakar *et al..* [10] Mishra *et al..* [11] and Kanthikar *et al..* [7] where benign tumours were having cystic consistency while malignant tumours were cystic and solid. In contrast to our study, Gupta *et al..*[12] had 49.2% of cases with solid consistency and Madan *et al..*[13] had 52.99% of cases with solid consistency.

Table 5: comparison of various studies with present study for histopathological type and ultrasonography findings in ovarian tumours

Investigator	Benign			Malignant		
	cystic	Solid	Cystic and Solid	Cystic	Solid	Cystic and solid
Madan *et al..* (1978)[13]	87.22%	2.33%	10.45%	-	52.94%	41.38%
Prabhakar *et al..* (1989)[10]	88.5%	7.45%	4.2%	0.94%	18.9%	71.14%
Mishra *et al..* (1991)[11]	95.4%	1.08%	3.51%	10.63%	15.59%	73.40%
Gupta *et al..* (2007)[12]	76.2%	2.4%	21.5%	6.7%	49.2%	44.1%
Kanthikar *et al..* (2014)[7]	66.67%	13.3%	28.88%	-	42.88%	55%
Present study	47.06%	29.41%	23.53%	-	25%	62.5 %

CONCLUSION

On ultrasonography benign ovarian tumours are having cystic consistency and malignant tumours were having cystic+ solid consistency.

REFERENCES

1. Scully Robert E, Young Robert H, Clement Phillip B. Atlas of Tumor Pathology. Tumors of the ovary, maldevelopedgonads, fallopian tube and broad ligament. 3rd series, Fascicle 23. Armed Force Institute of Pathology, 1999.
2. Grimes DA, Jones LB, Lopez LM, Schulz KF. Oral contraceptive for functional ovarian cysts. Cochrane database syst rev. 2006;4:CD006134.
3. Holt VL, Cushing – Haugen KL, Daling JR. Risks of Functional Ovarian Cyst: Effects of Smoking and Marijuana Use according to Body Mass ndex. Am J Epidemiol. 2005;161:520-5.
4. Timmerman D, Schwarzler P, Collins WP, Claerhout F, Coenen M, Amant F, *et al...* Subjective assessment of adnexal masses with the use of ultrasonography: an analysis of interobserver variability and experience. Ultrasound Obstet Gynecol 1999;13:11-16.
5. Valentin L. Prospective cross-validation of Doppler ultrasound examination and gray-scale ultrasound imaging for discrimination of benign and malignant pelvic masses. Ultrasound Obstet Gynecol 1999;14:273-283.
6. Valentin L. Pattern recognition of pelvic masses by gray-scale ultrasound imaging: the contribution of Doppler ultrasound. Ultrasound Obstet Gynecol 1999;14:338-347.
7. Kanthikar SN. Dravid NV. Deore PN. Nilkumbh DB. Suryawanshi KH. Clinico-Histopathological Analysis of Neoplastic And Non-Neoplastic Lesions of The Ovary: A 3-Years Prospective Study In Dhule, North
8. Maharashtra, India. J Clin Diagn Res. 2014 Aug; 8(8);4-7.

9. Sumaria Y . Aiman Y. Mohammad A. Clinicohistological Pattern of Ovarian Tumour in Peshwar Region. J Ayub Med Coll Abbottabad. 2008;20(4).

10. Abbas TR. Matar ER. The Incidence and Histopathological Patterns of Ovarian Tumours in Bab Alshaaria University Hospital: Retrospective Study. Nat Sci 2015;13(4):37-41.

11. Prabhakar BR, Maingi K. Ovarian Tumours - Prevalence in Punjab.Indian J Pathol Microbial. 1989;32:276-81.

12. Misra RK, Sharma SP, Gupta U, Gaur R, Mishra SD. Pattern of Overian Neoplasm In Eastern UP. J Obstet Gynaecol India. 1991;30:242-46.

13. Gupta N, Bisht D, Agarwal AK, Sharma VK. Retrospective and Prospective Study of Ovarian Tumours and Tumour Like Lesions. India J Pathol Microbial. 2007;50(3):525-27.

14. Madan A, Tyagi SP, Mohsin S. Incidence of Ovarian Tumours at Aligarh with Particular Reference to Histopathological Typing. J Obstet Gynecol India. 1978;827-32.

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