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RESEARCH ARTICLE

HISTOPATHOLOGICAL SPECTRUM OF OVARIAN LESIONS IN A TERTIARY TEACHING HOSPITAL IN TAMILNADU– A PROSPECTIVE STUDY

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ABSTRACT

Introduction: Ovarian tumors play an important role in female genital tract pathologies. It can occur in any age group. It may be a simple cystic lesion or a life-threatening malignancy. Most malignancies are diagnosed at a later stage because of vague symptoms. Histopathological examination is confirmatory for an ovarian tumor. Hence, the Pathologist plays a great role in diagnosing and classifying ovarian tumors. ***Materials and Methods:*** This prospective study was done in the Department of Pathology Rajah Muthiah Medical College and Hospital for a period of 2years from August 2020 to July 2022. The data was collected in a proforma with relevant detailed information. The excised specimens were received in buffered formalin, processed, sectioned, and stained with routine Haematoxylin and Eosin stains. ***Results:*** Among 142 cases studied, the most common mode of presentation is Pain abdomen followed by mass abdomen. The most common age group affected is 21-40years. Unilateral occurrence of tumor predominates. The non-malignant lesions account for about 93.7%. Among non-malignant lesions, Serous cystadenoma is the most common. Among malignant tumors, the incidence of Mucinous cystadenocarcinoma predominates. ***Conclusion:*** It is concluded from this study that ovarian tumors have different modes of presentation. Hence efforts must be taken to identify the risk factors for developing ovarian carcinoma.

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INTRODUCTION

Ovaries are intrapelvic organs with complex physiology in the female genital tract. The ovary is a site for both neoplastic and non-neoplastic lesions. It can occur in any age group, from the intrauterine period to post-menopausal age[1]. The neoplastic lesions are further classified into Benign, Borderline, and Malignant. Benign neoplasms comprise about 80% of ovarian lesions. The ovary is a common site for primary malignancy and metastasis to the ovary can also occur. Some of the risk factors for developing Ovarian cancers are nulliparous women, family history, genetic mutation, and environmental and lifestyle changes[1]. Ovarian malignancy is one of the common malignancies among women and is life-threatening[2]. These malignancies are difficult to diagnose in the early stage for clinicians because most of them are asymptomatic whereas in the later stage it is easy to diagnose but is associated with poor prognosis[3]. One of the reasons is Ovaries are situated deep in the pelvis and it has no precursor lesions[4]. The incidence and prevalence of ovarian tumors vary in different geographical parts of the country [5].

Identification of histopathological patterns of ovarian tumors by a Pathologist plays a great role as it aids in the treatment and prognosis of the patient[6]. This study focus on the frequency, age, clinical presentation, laterality, and histopathological spectrum of ovarian neoplasms based on data collected in and around the rural area of Rajah Muthiah Medical College and Hospital, Chidambaram.

MATERIALS AND METHODS

A prospective study was made in our Institute by diagnosing 142 patients with ovarian lesions from August 2020 to July 2022. During the study period, all the specimens received in the Department of Pathology for histopathological examination, Benign and Malignant lesions of the Ovary were included. Non-neoplastic lesions of the Ovary were excluded from this study. The data was collected in a proforma with the relevant information about age, symptoms, laterality, and provisional and histopathological diagnosis. The tissue bits were taken from the representative areas and processed to make paraffin blocks. The sections were made at 3-4-micron thickness, stained with H&E (Haematoxylin& Eosin), and reviewed.

Observation

Mode of Presentation

Table 1. Mode of Presentation

SNO	Presentation	No of Cases	Percentage
1.	Mass abdomen	31	21.8%
2.	Pain abdomen	90	63.4%
3.	Menstrual irregularities	12	8.5%
4.	Ascites	01	0.7%
5.	Asymptomatic	08	5.6%
	Total	142	100%

Table 1 shows that abdominal pain was the commonest presentation followed by mass per abdomen. About 0.7% of cases presented with ascites and they are the least common.08 cases (5.6%) are asymptomatic and detected during abdominal ultrasonography done for other diseases.

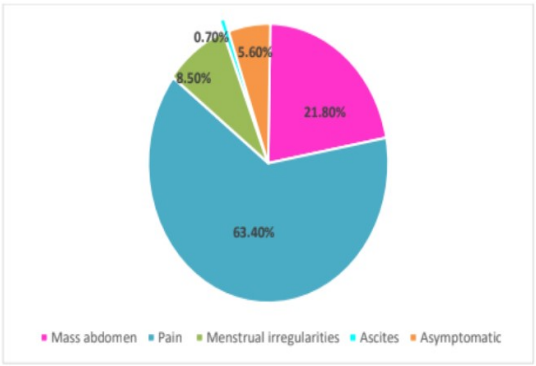

Chart 1. Mode of Presentation

Age Distribution: In this study, the age occurrence of ovarian tumors were ranging from 11 to 70 years. According to their age, the patients were divided into 6 groups (11-20 years, 21-30 years,31-40 years,41-50 years,51-60 years, and 61-70 years). The following table-2shows the age incidence of ovarian neoplasms.

Table 2. Age incidence of Ovarian tumors

SNO	Age in years	Total No of Cases	Percentage
1.	11-20 years	10	7.2%
2.	21-30 years	59	41.5%
3.	31-40 years	39	27.4%
4.	41-50 years	26	18.3%
5.	51-60 years	05	3.5%
6.	61-70 years	03	2.1%
	Total	142	100%

It is evident from the above table-2 that the highest incidence is seen among the agegroup of 21-30 years followed by 31-40 years. After 60 years the incidence is low.

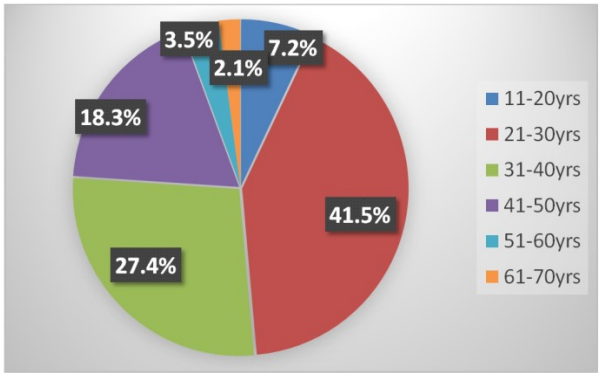

Chart 2. Age incidence of Ovarian tumors

Laterality

Table 3. Laterality of Ovarian neoplasm

SNO	Laterality	No of Cases	Percentage
1.	Unilateral	138	97.2%
2.	Bilateral	04	2.8%
	Total	142	100%

Table 3 - shows the incidence of unilateral and bilateral tumors. Of total 142 cases, Unilateral involvement of cases were higher 138 cases (97.2%) and bilateral involvement cases were lower 4 cases (2.8%)

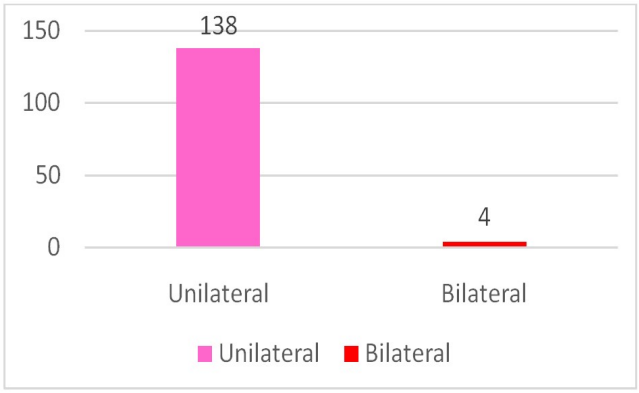

Chart 3. Laterality

Type of Lesion

Table 4. Type of Ovarian lesion

S No	Type	Number	Percentage
1.	Benign	133	93.7%
2.	Borderline	02	1.4%
3.	Malignant	07	4.9%
	Total	142	100%

Table - 4 shows that out of 142 cases studied, the majority were benign tumors 133(93.7%), followed by malignant 07(4.9%) and 02 (1.4%) cases of borderline tumors.

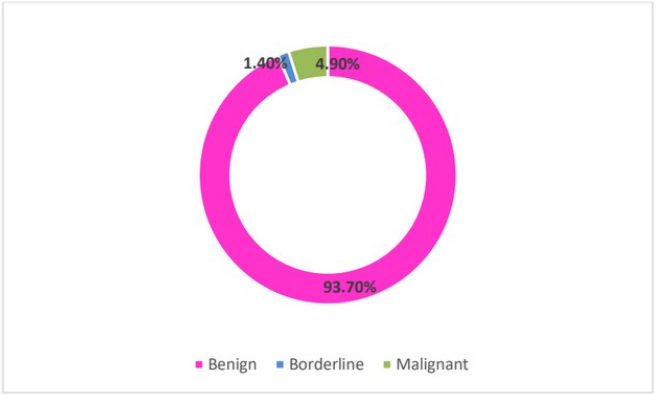

Chart 4. Type of Ovarian lesion

Histopathological distribution of Ovarian tumors: Among the histopathological classification Surface epithelial tumor is the most common type which contributes about 88%.

DISCUSSION

This study reveals that ovarian tumors have various modes of presentation. Here we have discussed only the common presentation with other studies.

Table 5. Histopathological distribution of Ovarian tumors

SNO	CLASSIFICATION	NO OF CASES	TOTAL NO OF CASES	PERCENTAGE
1.	Surface epithelial tumors			
	Serous Benign	86		
	Borderline	01		
	Malignant	01		
	Mucinous Benign	31	125	88%
	Borderline	01		
	Malignant	04		
	Endometrioid Malignant	01		
	Clear cell	-		
	Brenner	-		
	Seromucinous	-		
2.	Germ cell tumors			
	Mature teratoma	17		
	Immature teratoma	-		
	Mixed germ cell tumor	-	17	12%
	Dysgerminoma	-		
	Yolk sac tumor	-		
	Embryonal carcinoma	-		
	Choriocarcinoma	-		
	Monodermal teratoma (struma ovarii)	-		
	Gonadoblastoma	-		
3.	Sex Cord-Stromal tumors	-	-	-
	Fibroma			
	Thecoma			
	Juvenile granulosa cell tumor			
	Adult granulosa cell tumor			
	Sertoli-Leydig cell tumor			
4.	Metastatic tumors	-	-	-
			142	100%

Table 6. Comparison of type of tumors of present study with other studies

Type	Geeta Pachori et al[10]	Amod Sawant et al[11]	Present study
Benign	72.31%	75.7%	93.7%
Borderline	2.48%	6.1%	1.4%
Malignant	25.21%	18.2%	4.9%

Table 7. Comparison of histological types of present study with other studies

Histological type	Ayma et al. ()[12]	Ashok et al[13]	Present study
Surface epithelial tumor	63.08%	68%	88%
Germ cell tumor	29.48%	24.7%	12%
Sex-Cord stromal tumor	6.92%	6.1%	0
Others	0.52%	1.2%	0

The other presenting symptoms are menstrual irregularities, ascites, loss of weight, anorexia, weight loss, urinary symptoms, etc and this varies from each study. In our study out of 142 cases studied 63.4% cases presented with Pain abdomen followed by 21.8% presented with mass abdomen. About 8.5% of them presented with menstrual irregularities in our study.5.6% of them are asymptomatic and incidentally diagnosed during a routine ultrasound examination. Our study is similar to the study conducted by Purti Agarwal et al[3] where abdominal pain (50.9%) is the most common presenting symptom followed by mass abdomen(29.2%) ,whereas in a study conducted by Delphine T. Rose et al[4] abdominal mass (55.36%) is the most common presentation. Secondly, comparing the age-wise distribution of ovarian tumors in our study with other studies.In our study, the incidence of ovarian tumors is most common in the age group of 21 to 30 years. This is similar to the study conducted by Neha Gupta et al[2]where the incidence is most common in 21 to 30years and Pervin Karlı[7] et al where incidence is more common in 31 to 40 years. Our study is in contrast to the study conducted by Purti Agarwal et al[3] where most of the tumors occur in the age group of 41-50 years. Most of the tumors in our study were unilateral 97.2% with only 2.8% cases showing bilateral tumor involvement. This is comparable to the findings of the study done by Sampurna K et al[8] where unilateral involvement is 88% and bilateral involvement is 12%. A similar study is done by Abdulkareem Younis Suleiman et al[9] where unilateral involvement of tumors is higher. Histologically among neoplastic lesions benign is more common than malignant tumors and the least being borderline tumors in our study.

This study is similar to the study conducted by Geeta Pachori et al[10] and Amod Sawant et al[11]. Also among benign tumors, Serous cystadenoma is the most common type in all these three studies – Geeta Pachori et al[9](47.52%),Amod Sawant et al[10] (54.5%), and Present study (60.5%). Histologically in our study, the Surface epithelial tumor is the most common contributing about 88% followed by Germ cell tumor (12%). Similar observations are seen in the study conducted by Ayma et al[12] and Ashok et al[13].We did not find any Sex-cord tumors or metastatic tumors in our study.Among Germ cell tumors- Benign mature cystic teratoma is the most common type in our study,which is similar to the study done by Abdulkareem Younis Suleiman et al[9]. Mucinous cystadenocarcinoma is the most common malignant lesion in our study.This varies from the study done by Geeta Pachori et al[10] where Serous cystadenocarcinoma has the highest incidence among malignant tumors.

CONCLUSION

Ovarian tumors present a vast spectrum of clinical and histological features. They are next to cervical cancer among female genital tract malignancies. They can occur in any age group and benign lesions are more common in the reproductive age group. The size of the tumor does not depend on the nature of the tumor. It is necessary to classify the tumor according to its histological subtype for further treatment and prognosis of the patient.

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