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THE CLINICOPATHOLOGICAL ANALYSIS OF OVARIAN TUMORS

Obstetrics & Gynaecology

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ABSTRACT

Aims & Objectives: To study the sociodemographic distributions, clinical features , management and histopathology of ovarian tumors. **Introduction-** Ovarian tumours are common form of neoplasms in women and form some of the most challenging cases in gynaecology. Ovarian tumours that present in the reproductive age group are mostly benign while about 30 % in the postmenopausal age group are malignant.The most common are epithelial tumours forming 80% of all tumours. 80% are benign tumours and only 20% are malignant. **Methods:** This study was a prospective, observational study conducted in Department of Obstetrics & Gynaecology of tertiary health care centre. After obtaining the permission from the institution ethics committee & after applying inclusion and exclusion criteria ,women were included in the study. Duration of the study was 2 years. After proper counselling and informed consent, history was taken and examination was done,various investigations and tumors markers were done . Later management was decided (if operable/not operable). All the specimens were sent for histopathological examination. All data was recorded systematically in preformed data collection form and was expressed as frequency distribution and percentage. **Results:** The majority of participants fall within the 46-60 years age group, representing 41% of the total sample. A diverse range of complaints, with abdominal pain and lump in abdomen being the most common. Among the cases, 41% are benign tumours, 56% are malignant tumours, and 3% are borderline tumours. According to histopathology Surface epithelial tumors are more common . Stage I tumours are the most common, representing 49.15% of the cases. **Conclusion:** All women with pain in abdomen and lump in abdomen should be evaluated for ovarian neoplasms, our study reflected that most ovarian neoplasms were found in stage I which shows women were screened at early stages. The silent killer with vague symptoms need high suspicion to diagnose at early stages and aggressive surgical management to have zero residual disease.

KEYWORDS

neoplasms, benign , malignant

INTRODUCTION –

Ovarian tumours are common form of neoplasms in women and form some of the most challenging cases in gynaecology. Ovarian tumours that present in the reproductive age group are mostly benign while about 30 % in the postmenopausal age group are malignant [1].The most common are epithelial tumours forming 80% of all tumours. 80% are benign tumours and only 20% are malignant. [1] The classification of ovarian tumours by world health organization is based on the histogenesis of ovary. They are largely divided in the epithelial cell tumours, germ cell tumours and sex cord stromal tumours.[2] Ovarian cancer rate increases exponentially with age.[3]Many ovarian tumours are asymptomatic in early stages and are unfortunately diagnosed in the advanced stages. The high mortality rate of ovarian cancer is due to its late detection , thus earning itself the term "Silent Killer"[4] Anatomical location of the ovary and its complex histology is responsible for the late presentation of the Ovarian cancer and its management difficulties.[5] For a clinician, the practical method for screening for an adnexal mass is a bimanual pelvic examination done routinely in the outpatient department. Tumour markers also help in the identification of ovarian masses. Serum CA-125 have been proven nonspecific, so that their diagnostic relevance remains controversial[6]. Worldwide each year more than 2,25,000 women are diagnosed , and 1,40,000 women die from this disease.

This study reflects the importance of screening for early detection of tumors.

AIMS AND OBJECTIVES-

To study sociodemographic distributions of women, clinical features , management and histopathology of ovarian tumors

MATERIAL AND METHODS-

This study was a prospective, observational study conducted in Department of Obstetrics & Gynaecology of tertiary health care centre. Duration of the study was from September 2022 to August 2024 . Clinically diagnosed patient of any age group admitted in tertiary health care centre were included in the study. After proper counselling and informed consent, their sociodemographic history was taken, proper clinical history and general and gynaecological examination was done. Various investigations were done later management was decided (if operable/not operable). If the ovarian tumor was benign (<6 cm- conservative management given and these patients were excluded from the study. Benign tumor > 6 cm were operated. Malignant tumors which were operated underwent laparotomy and adjuvant chemotherapy was given. In non operable cases first chemotherapy was given and later decision of operation was taken. All the specimens were sent for histopathological examination. All data was recorded systematically in preformed data collection form and will be expressed as frequency distribution and percentage.

Inclusion Criteria –

All women who have been detected with ovarian tumors clinically and /on imaging ,> 6 cm benign ovarian tumors, all malignant tumors and are willing to participate in study.

Exclusion Criteria-

Outside operated cases, < 6 cm benign ovarian tumors and are not Willing to participate in study

Observation -

The majority of participants fall within the 46-60 years age group, representing 41% of the total sample. The majority of participants fall into the socio-economic status class III. Of the total cases, 19% are in the reproductive age group (under 45 years), 36% are perimenopausal (aged 45-55 years), and 45% are postmenopausal (over 55 years). A

diverse range of complaints, with abdominal pain and lump in abdomen being the most common. Among the cases, 41% are benign tumours, 56% are malignant tumours, and 3% are borderline tumours. According to histopathology Surface epithelial tumors are more common . Stage I tumours are the most common, representing 49.15% of the cases. The most common treatment is TAH + BSO, which accounts for 70.7% of the benign cases. Most common treatment modality being staging laparotomy with adjuvant chemotherapy , comprises of 57.62 % of cases and neoadjuvant chemotherapy with cytoreductive surgery in 42.37% of overall malignant cases.

Table 1: Demographic Characteristics Of Participants In Study:

Demographic characteristics		Frequency (N=100) (%)
Age(years)	**<18**	1 (1%)
	18-30	8 (8%)
	31-45	31 (31%)
	46-60	41 (41%)
	>60	19 (19%)
Socioeconomic status	**Class II**	3 (3%)
	Class III	68 (68%)
	Class IV	22 (22%)
	Class V	7 (7%)
Residence	**Urban**	45 (45%)
	Rural	55 (55%)
Religion	**Hindu**	68 (68%)
	Muslim	32(32%)
Parity	**Nulliparity**	5 (5%)
	P1-P2	44(44%)
	P3-P4	42(42%)
	>/=P5	9(9%)
Menstrual status	**Reproductive age**	19(19%)
	Perimenopausal	36(36%)
	Postmenopausal	45 (45%)

Table 2: According To Symptoms:

Symptoms	Pain in abdomen	27(27%)
	Lump in abdomen	10(10%)
	Pain & Lump in abdomen	25(25%)
	PV bleeding	7(7%)
	Asymptomatic	11(11%)
	Vague discomfort	20(20%)
Laterality	**Unilateral**	89(89%)
	Bilateral	11(11%)

Table 3: According To Treatment Given:

Benign (N=41)	Cystectomy	12(29.2%)
	Exploratory Laparotomy with TAH-BSO	29 (70.7%)
Malignant (N=59)	**Staging laparotomy with adjuvant chemotherapy**	34 (57.62%)
	Neoadjuvant chemotherapy with cytoreductive surgery	25 (42.37%)

Table 4: According Histopathological Distribution:

Type of neoplasia	Vaddadi et al[8] (2017)	Purnimaupreti et al[12] (2021)	Anil et al [1] [3] (2018)	Varsha et al[2] (2022)	Rathod et al[14] (2023)	Present study
Benign	90%	82.6%	85%	30%	29.18%	40%
Malignant	10%	4.6%	3.75%	56%	60.54%	57%
Borderline	-	12.8%	11.25%	14%	10.27%	3%

DISCUSSION-

Table No.5 : Comparison Based On Type Of Neoplasia.

Benign (N=41)	Simple ovarian cyst	1 (2.4%)
	Serous cystadenoma	11 (26.8%)
	Mucinous cystadenoma	17 (41.46%)
	Mature teratoma	6 (14.6%)
	Sex cord stromal tumor	4 (9.7%)
	Others	2 (4.8%)
Malignant (N=59)	**Serous cystadenocarcinoma**	15 (25.4%)
	Serous high grade papillary adenocarcinoma	26 (44%)
	Immature teratoma	4 (6.7%)
	Sex cord stromal tumors	5 (8.4%)
	Mucinous adenocarcinoma	6 (10.1%)
	Borderline	3 (5%)

Table No. 6: Comparison Based On FIGO Staging .

Stage	Varsha et al[2](2022)	Sushma et al[15](2018)	Kheiri et al[16](2018)	Baru et al[6](2017)	Present study
I	60.7%	50 %	22.8%	11.47%	50%
II	10.7%	30%	16.5%	11.47%	26%
III	10.7%	23.3%	35.5 %	60.66%	16.6%
IV	17.8%	6%	25.2%	16.4%	6.6%

Table No.7 : Comparison Based On Histopathological Observations Benign Ovarian Tumors.

Types	Anil gupta et al[13](2018)	Sushma et al[15] (2018)	Sheela et al[10] (2020)	Aniekan et al [7] (2023)	Varsha et al [2] (2022)	Present study
Simple ovarian cyst	-	-	-	-	13.3%	2.4%
Serous cystadenoma	69.1%	58.69 %	36.7%	17.14%	33.3%	26.8%
Mucinous cystadenoma	7.3%	11.9%	24%	12.8%	26.6%	41.46%
Germ cell tumor (mature teratoma)	20.5%	21.7%	24.1%	58.5%	-	14.6%
Sex cord stromal tumor	1.4%	5.4%	3%	10%	-	9.7%
Others	0	0	-	-	26.6%	4.8%

Table No. 8 Comparison Based On Histopathological Observations Of Malignant Ovarian Tumors:

Types	Varsha et al[2] (2022)	Sheela et al [10] (2020)	Anil gupta et al[13] (2018)	Aniekan et al [7] (2023)	Present study
Serous cystadenocarcinoma	37.1%	7%	11.1%	29.7%	25.4%
Serous high grade papillary adenocarcinoma	8.57%	29%	-	-	44%
Germ cell tumors (immature teratoma)	14.28%	4%	11.1%	8%	6.7%
Sex cord tumors	11.6%	15%	22.2%	8%	8.4%
Mucinous adenocarcinoma	2.85%	7%	33.3%	27%	10.1%
Borderline	20%	20%	33.3%	8%	5%
Others	8.57%	10%	-	10%	-

In the present study, the distribution of ovarian tumours among 100 participants was analyzed. The study identified 40 cases (40%) as benign, 57 cases (57%) as malignant, and 3 cases (3%) as borderline. Varsha et al [3]study shows , the distribution of ovarian tumours among 100 participants were analyzed and 30% were benign , 14% borderline, 56% malignant tumours were noted. Rathod et al [65]study shows,29.18 % benign, 10.27 % borderline, 60.54% malignant tumors.

The histopathological distribution of benign ovarian tumours in our study revealed that simple ovarian cysts accounted for 2.4% of cases, serous cystadenomas for 26.8%, mucinous cystadenomas for 41.46%, germ cell tumour (mature teratoma) for 14.6%, sex cord stromal tumour for 9.7%and other types for 4.8%, of 41 benign cases.

Our study is comparable with studies of anil Gupta et al, Sushma et al, Sheela et al and varsha et al, in which surface epithelial tumours are maximum in number followed by benign teratoma and less number of sex cord stromal tumours. Where as our study is not comparable with Aniekan et al reason being difference in regional and demographic variation.

The study found that serous high-grade papillary adenocarcinoma was the most common type, accounting for 35% of cases, followed by serous cystadenocarcinoma at 16%, germ cell tumours at 13%, sex cord tumours at 11%, mucinous adenocarcinoma at 10%, and other malignancies at 8%. Additionally, 5% of the cases were borderline tumours.

Overall, all studies emphasize the predominance of surface epithelial

tumours, which is consistent with the present study.

For serous cystadenocarcinoma, CA125 is the marker reported, with 13 cases showing elevated levels,CEA elevated in 2 cases. Serous high-grade papillary adenocarcinoma shows 23 cases with elevated CA125 levels, while mucinous adenocarcinoma has 5 cases of CA125 and 2 cases of CEA. Sex cord tumours have 4 cases of CA125, and germ cell tumours show elevations in CA125, AFP, and LDH, with 5 cases of CA125, 1 case each of AFP and CEA, and 2 cases of LDH. Borderline tumours have 2 cases of CA125. This highlights the variability in tumour marker elevation across different types of ovarian tumours, with CA125 being the most frequently elevated marker.

In Varsha et al [2]study Ca125 was the most commonly done tumor marker which was diagnostic in the type of the tumor. , CEA. And CA 19.9 were also commonly done in cases of ovarian tumors. AFP and LDH were significantly raised in germ cell and sex cord tumours.Both the studies are comparable.

CONCLUSION -

It reflects that postmenopausal women belonging to rural area are high risk to ovarian neoplasms and so needed early screening and detection. All tumors with pain and lump in abdomen should be evaluated for ovarian neoplasms. Serum CA-125 was the most reliable tumour marker in diagnosis of ovarian tumors. Study findings also concluded that majority benign tumors were of cystic consistency and malignant tumors were solid, malignant tumors were more than benign, and surface epithelial tumors were more common tumors amongst them. We could detect ovarian neoplasm in the early stage with early screening. All received standard care, majority of benign tumors underwent TAH +BSO and malignant cases staging laparotomy with adjuvant chemotherapy. The silent killer with vague symptoms need high suspicion to diagnose at early stages and aggressive surgical management to have zero residual disease.

REFERENCES

1. Howkins J, Bourne G. Shaw's Textbook of Gynecology. 16th ed. New Delhi: Elsevier; 2010. p. 521
2. Deshmukh V, Suboohi A. Clinicopathological analysis of ovarian tumours: experience of 3 years in a cancer hospital. The New Indian Journal of OBGYN. 2022; 9(1): 122-6.
3. Jemal A, Siegel R, Ward E, Hao Y, Xu J, Thun MJ. Cancer statistics, 2009. CA: a cancer journal for clinicians. 2009 Jul;59(4):225-49.
4. Deeba F, Alam AM, Banu J. Clinicopathological study of ovarian cancer: a multi centered study. Journal of Shaheed Suhrawardy Medical College. 2013 Aug 17;5(1):3-6.
5. Sharadha SO, Sridevi T A Renukadevi TK, Gowri R. Binayak debbarman, indra V. ovarian masses: changing clinicohistopathological Trends, the journal of obstetrics and gynaecology of india(January – februrary 2015)65(1) :34-38
6. Lina baru, Ranjita Patnaik , kunja Bihari singh. clinico pathological study of ovarian neoplasms, International Journal of Reproduction, Contraception, Obstetrics and Gynecology 2017 aug 6(8):3438-3444.
7. Abasiattai AM, Nwafor CC, Utuk NM. A 10-year clinicopathological analysis of ovarian lesions in a tertiary hospital in Southern Nigeria. African Health Sciences. 2023 Apr 11;23(1):459-68.
8. Manoja V, Pramood M, Jyothi V, Chandrashekar KP. Clinicopathological study of ovarian tumors: a 2-year study. International Journal of Scientific Study. 2017 Jun 1;5(3):297-302.
9. Mittal A, Kundal RK, Kaur K, Mathur M, Sandhu A, Kaushal N. Clinico-Pathological Correlation of Tubo-Ovarian Lesions. Annals of International Medical and Dental Research. 2018;4(3):51.
10. Sheela K. M., Priya M. G., Veena Vijayan Clinicomorphological study of ovarian tumours: two year study International Journal of Advances in Medicine , July 2020 ;7(7)
11. Kamal S, Kumar M. Clinicopathological analysis of ovarian tumors in a tertiary care hospital. Int J Acad Med Pharm. 2022;4(5):519-23.
12. Upreti P, Reddy GT. A retrospective observational study of clinicopathological spectrum of ovarian tumors. Indian Journal of OBGYN. 2021;7(2):157-62.
13. Agarwal DK, Gupta A. A Clinico-Pathological Study of Ovarian Tumors.International journal of research and review, June 2018;5(6).
14. Archana Rathod, Bhakti Kalyankar, Jyoti Kodgire, Narendra Patil, Shrikrishna Chavan, Sanjay Pagare, Rakesh Ajmera and L. Deeksha, 2023. Res. J. Med. Sci., 17: 357-360
15. Chandekar Sushama A, Deshpande Shubha A, Muley Prabha S. A clinico-pathological study of 120 cases of ovarian tumors in a tertiary care hospital. International Journal of Contemporary Medical Research. 2018;5(5):E9-13.
16. Kheiri SA, Kunna A, Babiker AY, Alsuhaibani SA, Ahmed RY, Alsammani MA. Histopathological pattern and age distribution, of malignant ovarian tumor among Sudanese ladies. Open access Macedonian journal of medical sciences. 2018 Feb 2;6(2):237.