SOCIODEMOGRAPHIC AND CLINICOPATHOLOGIC STUDY OF OVARIAN CANCER IN A TERTIARY CARE HOSPITAL OF CENTRAL INDIA

Author:
Dr. Prachi Nayak
Co-authors:
Dr. Zeeshanuddin Ahmad, Dr. Amar Jain, Dr. Bharatbhushan Patidar, Dr. Rohit Yadav
Department of General Surgery
Chirayu Medical College and Hospital, Bhopal

Background

Ovarian cancer - fifth leading cause of death from gynecological malignancy worldwide and is the second most common gynecological malignancies affecting Indian women. The incidence and mortality of ovarian cancer is continuously increasing and despite of extensive medical research, till now its etiology is not fully understood Diagnosis of malignancy in ovarian tumor is always questionable clinically as well as by investigation. As the symptoms are often vague, patients attribute it to other conditions and present late adding to the poor compliance to treatment. Early detection of the disease has higher survival rate up to 85% but due to unclear symptoms and nonspecific biomarker, survival rate decreased to 30%. This study was hence undertaken to report the socio-demographic and clinicopathological data of patients with ovarian cancer in one of the tertiary care hospitals in central India.

OBJECTIVES OF THE STUDY

- To study the socio-demographical, clinical and histopathological data of patients with ovarian masses.

- To know the incidence of benign and malignant ovarian tumors.

MATERIAL AND METHODS

- **Study population**: Patients of Ovarian masses presenting to the Oncology OPD.

- **Study design**: Retrospective record based.

- **Study Centre**: Chirayu Medical College and Hospital Bhopal

- **Period**: In the time period of January 2020 to January 2022

- **Study tool**: Proforma

- **Sample Size**: 150

- **Statistical Analysis**: MS Excel and SPSS version 23.0

METHODOLOGY

- Permission for the study was initially obtained from the head of the department.

- Preliminary activities like proforma creation and scheduling of activities were done.

- Clearance from IEC was then obtained

- Pre designed proforma was then utilised to collect data.

- Data thus obtained was entered in MS Excel and analysed using SPSS version 23.0.

- Information -Data of history, clinical examination, routine investigations was extracted from the records.

- Standard operating protocols of the Oncology department for the management of ovarian masses were followed by every consultant uniformly.

- In the women who underwent surgery, the indication for surgery, the type of surgery, the extent of surgery, the results of the surgery, surgical follow up and the histopathologic reports were analyzed.

- This study only includes patients who requires surgery and patient who need chemotherapy and radiotherapy are excluded

OBSERVATION AND RESULTS

The present prevalence study was conducted at a tertiary care hospital and entailed analysis of data of 150 patients of ovarian cancer. Age group studied was 21-66 years age group. Majority of the patients were in the group of 40-50 years (66, 44%) or 50 years and above (42, 28%). (Table 1).

**Table 1: Age distribution amongst participants (n=150)**

Age group	No. of Patients (n=150)	Percentage
20-30 yrs	12	8%
30-40 yrs	30	20%
40-50 yrs	66	44%
> 50 yrs	42	28%
Total	**150**	**100%**

Age distribution amongst participants (n=150)
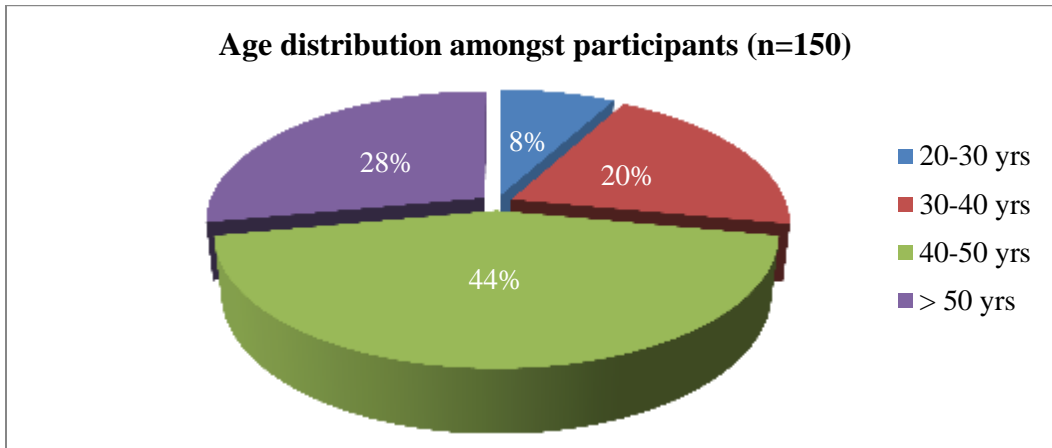
- Of the ovarian masses, 60% were malignant and 40% were benign tumour.

- All the women with ovarian masses were advised surgery.

- The results of total 90 women with operated benign tumours and malignant 60 women with operation malignant tumors were included in the analysis.

**Table 2: Age wise distribution of Benign ovarian masses (n=90)**

Age group	No. of Patients (n=150)	Percentage
20-30 yrs	8	8.89%
30-40 yrs	17	18.89%
40-50 yrs	43	47.78%
> 50 yrs	22	24.44%
Total	**90**	**100.0%**

Age wise distribution of Benign ovarian masses (n=90)
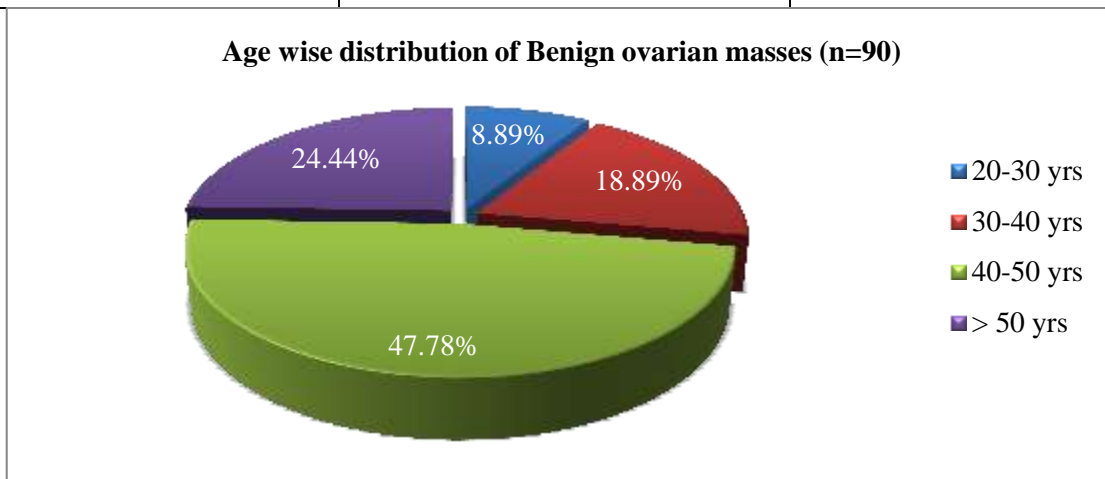
- The most common benign ovarian masses in the age group of 40-50 years (47.78%), followed by more than 50 years (24.44%).

**Table 3: Age wise distribution of Malignant ovarian masses (n=60)**

Age group	No. of Patients (n=150)	Percentage
20-30 yrs	5	8.33%
30-40 yrs	9	15.00%
40-50 yrs	28	46.67%
> 50 yrs	18	30.00%
Total	**60**	**100.0%**

Age wise distribution of Malignant ovarian masses (n=60)
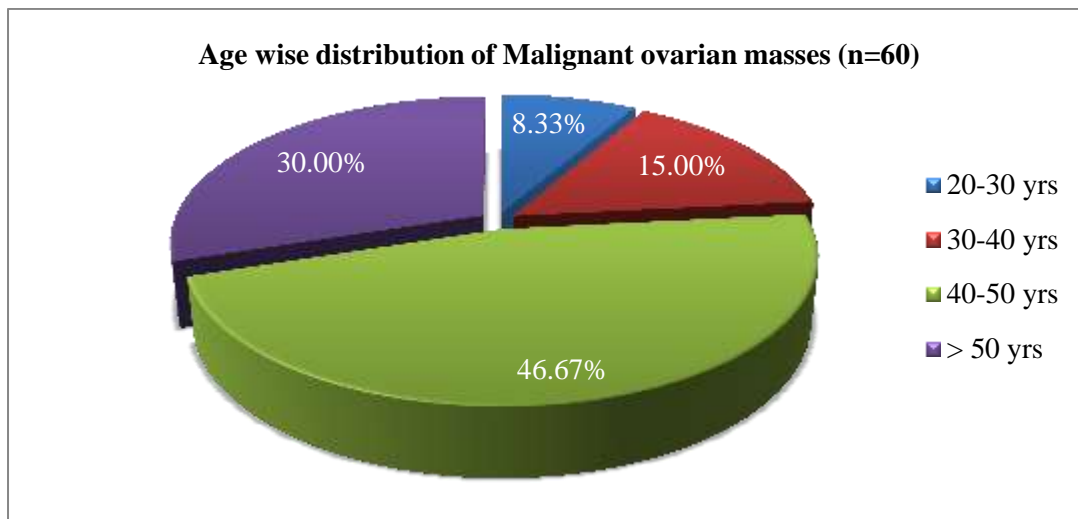
- The most common malignant ovarian masses in the age group of 40-50 years (46.67%), followed by more than 50 years (30%).

Table 4: Distribution of various types of ovarian lesions (n=150)

Type of tumor	No. of Patients	Percentage
Serous Cystadenoma	48	32.00%
Mucinous Cystadenoma	27	18.00%
Teratoma	15	10.00%
Fibroma	5	3.33%
Serous Cyst adenocarcinoma	40	26.67%
Mucinous Cyst adenocarcinoma	15	10.00%
Total	**150**	**100.0%**

Distribution of various types of ovarian lesions (n=150)
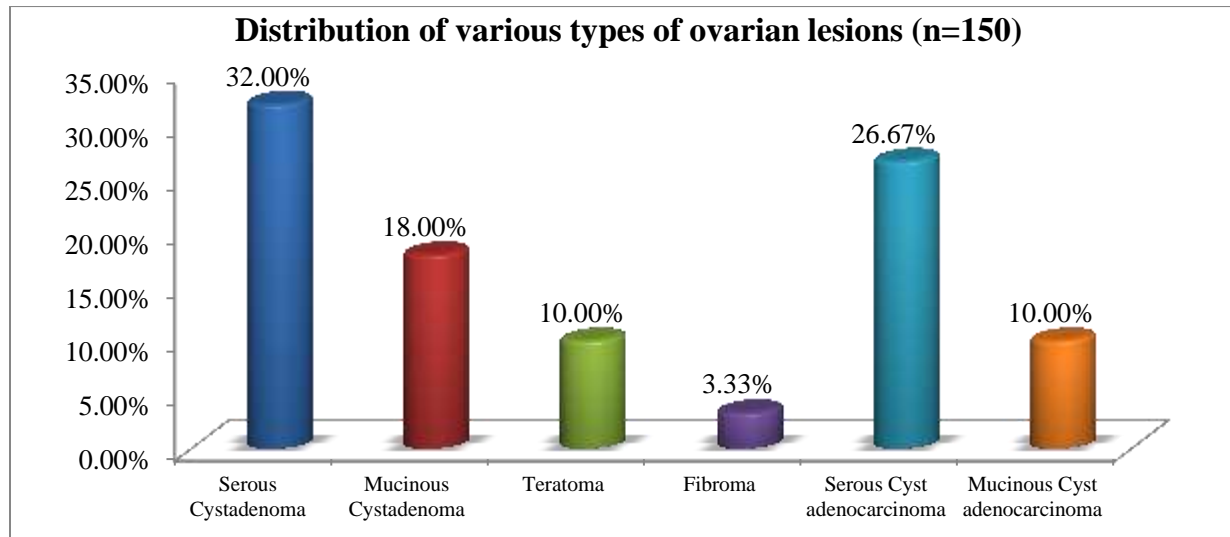
- Among the various types of ovarian lesions, 60% were benign and 40% were malignant. The most common benign ovarian mass was serous cystadenoma (32%). In the malignant group, the most common type was serous cyst adenocarcinoma (26.67%).

Table 5: Distribution according to the presence of Ascites

Ascites	Benign	Malignant	Total
Present	10 (11.11%)	20 (33.33%)	30
Absent	80 (88.89%)	40 (66.67%)	120
Total	**90 (100.0%)**	**60 (100.0%)**	**150**

- Among the presence of ascites, only 11.11% ascites present in benign and 33.33% ascites present in malignant ovarian masses.

Table 6: Mean CA-125 levels in the different age groups

Age group	Benign (Mean±SD)	Malignant (Mean±SD)
20-30 yrs	56.21±12.05	201.64±98.25
30-40 yrs	88.21±17.15	216.71±36.51
40-50 yrs	112.41±36.51	284.52±105.09
> 50 yrs	106.52±26.14	256.94±90.06

*Expressed as mean and standard deviation.

- Above table presents that maximum mean CA-125 level present in 40-50 years of age group (112.41±36.51) in benign and (284.52±105.09) in malignant ovarian masses.

DISCUSSION

Among 150 patients, 90 women with benign tumors and malignant 60 women with malignant tumors were included in the analysis. Early detection of the disease has higher survival rate up to 85% but due to unclear symptoms and nonspecific biomarker, survival rate decreased to 30%. Majority of the patients was diagnosed in advanced stage of the disease as the delay in diagnosis was common. The most common benign ovarian mass was serous cystadenoma. In the malignant group, the most common type was serous cyst adenocarcinoma. Similar study was done by Jha et al where 63.9% of benign and 36.1% were Malignant. Only 11.11% ascites present in benign and 33.33% ascites present in malignant ovarian masses. RMI index is high in malignant tumors.

CONCLUSION

Ovarian cancer is one of the most common gynecological malignancies affecting in Indian woman. The present study reports the trends in ovarian cancer incidence with demographic factors in the central region of India. More than half of the ovarian masses in the reproductive age group are benign tumour and one third are malignant tumour. Awareness regarding ovarian cancer in general population and also primary care physician may help in early detection and timely treatment of the disease can reduce the mortality and morbidity.

REFERENCES

- Alok Kumar Soni. *et al*. (2017). Socio-Demographic and Clinicopathological Study of Ovarian Cancer in Tertiary Care Hospital of North Central Region of India. J. of Advancement in Medical and Life Sciences. V5I4. DOI: 10.5281/zenodo.1034648

- Jain R, Patel P, Goyal S. Clinico-pathological study of ovarian tumors at tertiary care hospital, Udaipur. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2021 Feb 1;10(2):555-9.

- Prasad AE, Nandennavar MI, Ganesh MS, Karpurmath SV, Hatti J. Demographic and clinicopathologic profile of malignant epithelial ovarian tumors: an experience from a tertiary cancer care centre in Bangalore, South India. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2017 Mar 1;6(3):856-61.

- Dhar SR, Begum SN, Zabin F, Akter S. Socio-demographic Characteristics of Ovarian Tumor Patients attended at a tertiary Care Hospital in Dhaka city. Journal of Current and Advance Medical Research. 2015 Sep 4;2(2):39-41.

- Krishnaswamy P, Nayak A, Shivananjiah C, Swarup A, Cherukumudi A, Chandran PR. Study

of clinical presentation and histopathological patterns of ovarian cancer in a tertiary care centre. Int J Community Med Public Health. 2017;3(1):86-9.

- Jha R, Karki S. Histological pattern of ovarian tumors and their age distribution. *Nepal med Coll J 2008; 10: 81-5.*