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Research Article

OCCURRENCE OF OVARIAN TUMORS IN KARNATAKA

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ABSTRACT

Ovary is relatively resistant to most diseases except to neoplasms. Ovarian cancer is the fourth leading cause of death in women.

The present study included the clinicopathological evaluation of 180 cases of ovarian neoplasms in Gulbarga over a period of 3 years from June 2006 to May 2007. Ovarian neoplasms accounted for 2.17% of the total number of histopathology specimens and 11.43% of total hysterectomy and ovaritomy specimens submitted to our department during the study period.

The peak incidence of ovarian neoplasms was in 3rd, 4th and 5th decade of life. Benign neoplasms were peak in 3rd decade of life and malignant were in the 5th decade. The youngest patient was a 2 years old girl and the oldest was 70 years old lady. The commonest symptoms with which the patient presented was mass per abdomen in 42.2% cases followed by, mass per abdomen and pain abdomen in 22.8% cases. Endometriosis and massive oedema ovary were the tumor like lesions encountered.

Ovarian tumors are one of the most researched topics in gynaecological pathology. During the present study of clinicopathological evaluation of 180 cases of ovarian neoplasm, it was found that the incidence of these neoplasms was almost the same in this region when compared with the previous data.

KEY WORDS; Ovarian cancer, incidence of ovarian mass, clinical symptoms in Ovarian cancer.

INTRODUCTION

Ovary is unique in that it is relatively resistant to most diseases except perhaps to neoplasia[1]. The reported incidence of different types of ovarian tumors varies widely[2].

The complex anatomy of the ovary and its peculiar physiology with the constant cyclical changes from puberty to menopause gives rise to a number of cell types, each of which is capable of giving rise to tumours[3].

Ovarian cancer is the fourth leading cause of cancer in women[4].

Moreover, one can never be sure of the benign nature unless histopathology is determined[5].

AIMS AND OBJECTIVES

1. To study the mode of clinical presentation and relationship of ovarian neoplasms to age.

METHODOLOGY

The present study was based on the critical examination of a total of 180 cases of ovarian neoplasms received at the department of pathology in gulbarga over a period of 3 years, which included 2 years retrospective period.

The gross examination was done carefully noting the size, shape, extent and configuration, nodularity, consistency and presence of torsion. A minimum of 4-5 bits were selected from the representative areas of tumor. The sections 3-5 microns thick were cut and stained by haematoxylin and eosin, in all cases and special stains like PAS, Van Geison, Reticulin were done wherever necessary.

The lesions were classified and studied as per WHO classification of tumors of ovary 2003.

RESULTS

The present study included the 'Clinicopathological study of ovarian neoplasms' over a period of 3 years with two years retrospective study i.e. from June 2006 to May 2008 and one year prospective i.e. from June 2008 to May 2009.

This study was undertaken in the department of pathology M.R. Medical College, Gulbarga. A total of 180 ovarian neoplasms were evaluated. The systemic evaluation of the cases was done according to the proforma.

The total number of histopathology specimens submitted during the 3 years was, 8290, among them the total

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number of hysterectomy and ovariotomy specimens were 1575.

The overall incidence of the ovarian neoplasms in the present study was 11.43%.

Table 3: Showing the year wise distribution of ovarian neoplasms in the present study

Year	Number of cases	Percentage
2006 (June 06-Dec-06)	36	20
2007	62	34.4
2008	52	28.9
2009 (Jan 09-May 09)	30	16.7
Total	**180**	**100**

In the present study, the highest number of cases were in 2007, 62 (34.4%).

Table 4: Age distribution - Showing the age wise distribution of ovarian neoplasms in the present study

Age	Number of cases	Percentage
1-10	3	1.7
11-20	23	12.8
21-30	56	31.1
31-40	48	26.7
41-50	34	18.9
51-60	11	6.0
61-70	5	2.8
Total	**180**	**100**

In the present study, majority of the cases were in the 3rd to 5th decade. The youngest case was a 2 year old child and the oldest was a 70 years old lady. Majority of the cases, 56 (31.1%) were in the age group 21-30 years, followed by 48 (26.7%) cases, in the age group of 31-40 years and 34 (18.9%) in age group of 41-50 years. The least incidence was in the first decade, 3 (1.7%) as shown in table -4.

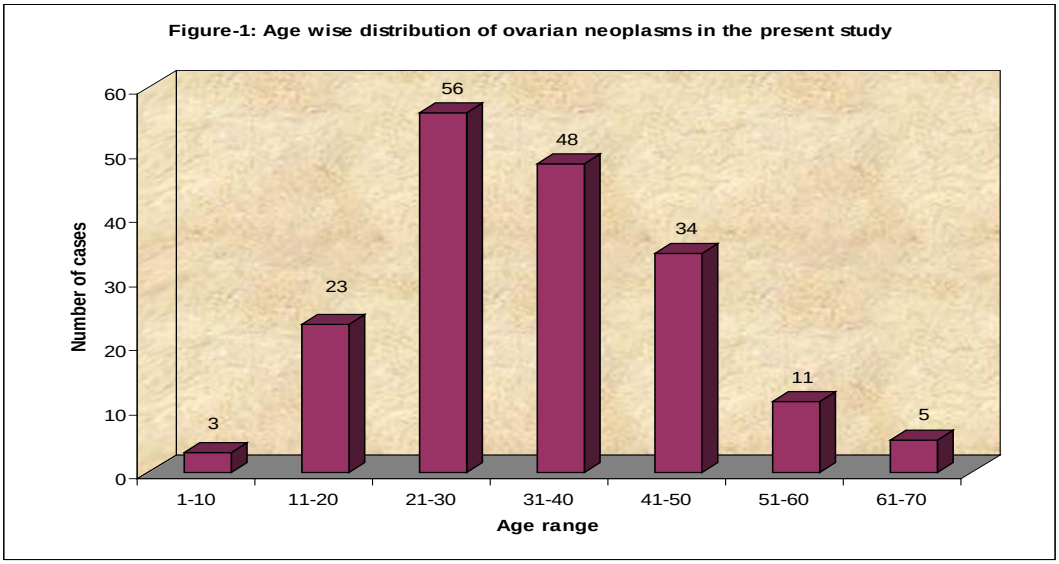
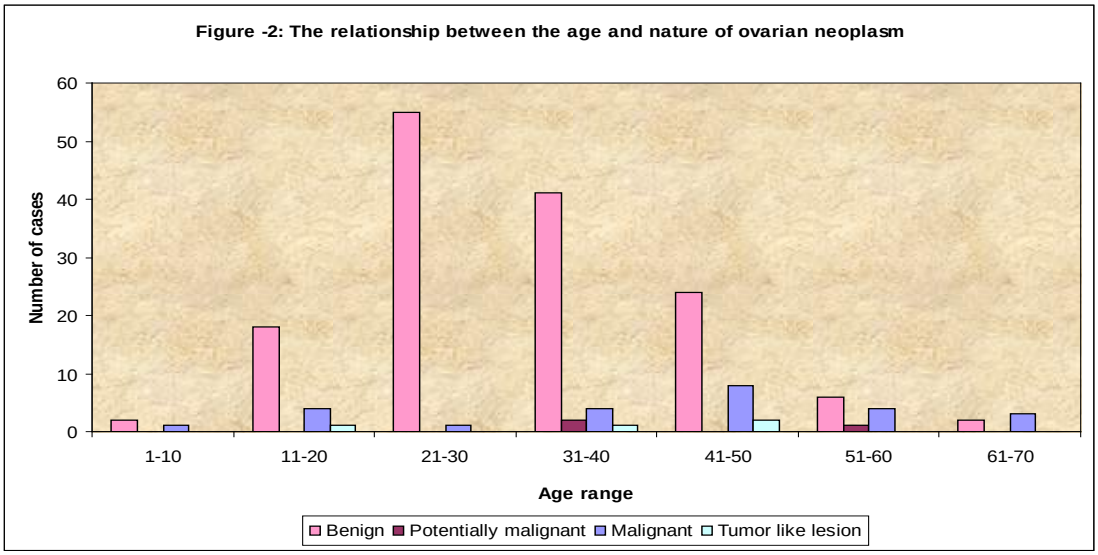


Table 5: Showing the relationship between the age and nature of ovarian neoplasm

Age	Benign	Potentially malignant	Malignant	Tumor like lesion	Total	Percentage
1-10	2	-	1	-	3	1.7
11-20	18	-	4	1	23	12.8
21-30	55	-	1	-	56	31.1
31-40	41	2	4	1	48	26.7
41-50	24	-	8	2	34	18.9
51-60	6	1	4	-	11	6.0
61-70	2	-	3	-	5	2.8
Total	**148**	**3**	**25**	**4**	**180**	**100**

$\chi^2 = 38.17$, $P<0.05$ (S)

In the present study, majority of the benign tumors, 55 (37.2%) were in the age group 21-30 years followed by 41 (27.7%) and 24 (16.2%) in the age groups 31-40 years and 41-50 years respectively. Majority of malignant tumors, 8 (32%) were in the age group 41-50 years, while 4 (16%) cases each were in the 2nd , 4th and 6th decade as shown in table - 5. The association between the age range and the nature of the neoplasm was found to be statistically significant.



Clinical Presentation:

Table 6: Showing the distribution of clinical presentation in ovarian neoplasms in the Present study

Clinical Presentation	Number of Cases	Percentage
Mass per abdomen	76	42.2
Pain Abdomen	34	18.9
MPA+PA	41	22.8
MPA + Pressure symptoms	17	9.4
Menstrual disturbances	3	1.7
MPA+Ascities	4	2.2
Primary Infertility	1	0.6
Others	4	2.2
Total	**180**	**100**

In the present study, the most common symptom with which the patients presented was mass per abdomen in 76 (42.2%), followed by 41 (22.8%) with pain abdomen and mass per abdomen and 17 (9.4%) with pressure symptoms (increased urinary frequency) along with mass per abdomen.

The most common symptom of both benign and malignant tumors was mass per abdomen. Acute pain in the benign tumor was mostly associated with torsion. Chronic pain was associated with very large tumor and with malignancy.

Four (2.2%) cases had mass per abdomen with ascities. Two of them were associated with malignant tumors and two with fibroma ovary.

Four (2.2%) cases presented with vomiting, bleeding and mass per vagina as shown in table -6.

DISCUSSION

Ovarian neoplasms are one of the most fascinating tumors in women in terms of their histogenesis, clinical behaviour and malignant potentiality.

Histomorphological classification of ovarian tumors forms an integral part of the evaluation of these neoplasms[6].

In the present study 180 ovarian neoplasms were evaluated and classified based on the histological classification of the ovary by WHO (2003).

Incidence:

In the present study, the over all incidence of the ovarian neoplasms was 2.17% of the total number of histopathology specimens and 11.43% of the total hysterectomy and ovariotomy specimens submitted to our department during the study period of three years. Similar study done by Patil V (2005)[7] in this area revealed almost similar data, with the ovarian neoplasms comprising of 2.46% of the total specimens and 13.42% of hysterectomy specimens.

Table 20: Age distribution Showing the comparison of age wise distribution of ovarian neoplasms in the present study and other studies

Age Range (Years)	Saxena et al (1980)[8] n=356		Patil V [7] (2005) n=180		Present study (2009) n = 180	
	No of cases	%	No of cases	%	No of cases	%
1-10	-	-	-	-	3	1.7
11-20	38	10.6	14	7.7	23	12.8
21-30	111	31.2	46	25.6	56	31.1
31-40	98	27.4	71	39.4	48	26.7
41-50	72	20.6	33	18.3	34	18.9
51-60	24	6.6	13	7.2	11	6.0
61-70	13	3.6	02	1.1	5	2.8
>70	-	-	01	0.5	-	-
Total	**356**	**100**	**180**	**100**	**180**	**100**

In the present study, majority 56 (31.1%) cases were in the age range 21-30 years, followed by 48 (26.7%) in 31-40 years age. Similar observation was made by Saxena et al (1980) with majority 111 (31.2%) in age range of 21-30 years followed by 98 (27.4%) cases in 31-40 years of age.The study by Patil V (2005)[7] revealed the incidence of majority 71(39.4%) cases in the age group of 31-40 years as shown in table-20.

Age wise distribution of benign and malignant lesions

About two thirds of ovarian tumors occur in women of reproductive age and 80-90% of them between the ages of 20-65 years; less than 5% develop in children. Nowak et al[12] reviewed 326 patients, defining the reproductive age group as between 18-39 years. A total of 93% were benign epithelial tumors and only 4.6% were malignant in this age group.

Table 21: Showing the comparison of age distribution of benign ovarian neoplasms in the present study and other studies

Age in years	Jagadeshwari et al (1971)[9] n=265		Verma and Bhatia (1981)[6] n=403		Present study (2009)n=180	
	No. of cases	%	No. of cases	%	No. of cases	%
1-10	-	-	-	-	02	1.35
11-20	27	15.98	27	10	18	12.16
21-30	61	35.88	104	38.52	55	37.16
31-40	55	32.35	63	23.33	41	27.70
41-50	18	10.59	46	17.04	24	16.22
51-60	9	5.28	20	7.41	06	4.05
61-70	-	-	8	2.96	02	1.35
>70	-	-	2	0.74	-	-
Total	**170**	**100**	**270**	**100**	**148**	**100**

In the present study majority, 55 (37.16%) of the benign ovarian tumors occured in the age group 21-30 years followed by 41(27.7%) cases in the age group of 31-40 years. This is similar to the studies conducted by Jagdeshwari et al (1971) and Verma and Bhatia (1981) as shown in Table-21.

The benign ovarian neoplasms became less common with increasing in age in the present study. Koonings et al (1989)[10] also reported the highest (94%),benign ovarian tumors in 3rd decade which became less common with increasing age and least benign tumors were seen in 7th decade.

Table 22: Showing the comparison of age distribution in malignant ovarian neoplasms in present study and other studies.

Age in years	Jagadeshwari et al (1971)[9] n=265		Verma and Bhatia (1981)[6] n=403		Present study (2009) n=180	
	No. of cases	%	No. of cases	%	No. of cases	%
1-10	-	-	4	3.01	1	4.0
11-20	10	10.53	13	9.77	4	16.0
21-30	25	26.32	23	17.29	1	4.0
31-40	28	29.47	36	27.07	4	16.0
41-50	20	21.05	29	21.80	8	32.0
51-60	9	9.47	22	16.54	4	16.0
61-70	3	3.16	4	3.01	3	12.0
>70	-	-	2	1.50	-	-
Total	**95**	**100**	**133**	**100**	**25**	**100**

In the present study majority 8 (32%) of the malignant ovarian tumors occurred in 41-50 years, while in the other studies by Jagadeshwari et al (1971) and Verma and Bhatia (1981), malignant tumors occurred in the age range 31-40 years with 28 (29.47%) and 36 (27.07%) cases respectively as shown in Table-22.

Malignant ovarian tumors are highly age dependent ranging from a low of 2.1% in the 3rd decade to nearly 50% in the 7th decade [10].

Koonings et al (1989)[10] showed that the proportion of malignant ovarian tumors increased with age peaking in the 7th decade. The overall risk that an ovarian neoplasm was malignant was 13% in premenopausal women, and 45% in post menopausal women.

Clinical presentation

Most of the ovarian tumors do not give rise to any specific symptoms. They are associated with mild symptoms like abdominal distention, pain and urinary or gastrointestinal symptoms[9].

Table 23: Showing the comparison of clinical presentation in ovarian neoplasms in the present study and other studies

Clinical Presentation	Jagadeshwari et al (1971)[9] n = 265		Bhuvanesh & Logambal (1978)[5] n =70		Present study (2009) n = 180	
	No. of cases	%	No. of cases	%	No. of cases	%
MPA	154	58.11	38	54.29	76	42.2
PA	80	30.19	42	60.00	34	18.9
MPA + PA	-	-	-	-	41	22.8
Pressure symptoms	66	24.91	11	15.71	17	9.4
Menstrual disturbance	20	7.55	19	27.14	3	1.7
Ascities	31	11.7	-	-	4	2.2
Infertility	-	-	12	17.14	1	0.6
Others	8	3.02	-	-	4	2.2

In the present study, majority 76 (42.2%) presented with mass per abdomen and 41 (22.8%) presented with mass per abdomen associated with pain. Similar studies by Jagadeshwari et al (1971) and Bhuvanesh and Logambal (1978) also encountered mass per abdomen as the common symptom with 154 (58.11%) and 38 (54.29%) cases respectively, as shown in the Table -23.

Similar studies by Couto F et al (1993)[11] revealed mass per abdomen as the common symptom in 90.4% cases, while ascites was found along with mass per abdomen in 4.91% case with malignant tumors. Randhawa and Lata (1979)[2] also showed mass per abdomen and pain abdomen in 83 and 60 cases respectively, to be the most common symptoms.

CONCLUSION

Ovarian tumors are one of the most researched topics in gynaecological pathology.

During the present study of clinicopathological evaluation of 180 cases of ovarian neoplasm, it was found that the incidence of these neoplasms was almost the same in this region when compared with the previous data.

SUMMARY

The present study included the clinicopathological evaluation of 180 cases of ovarian neoplasms in Gulbarga over a period of 3 years from June 2006 to May 2007.

Ovarian neoplasms accounted for 2.17% of the total number of histopathology specimens and 11.43% of total hysterectomy and ovaritomy specimens submitted to our department during the study period.

The peak incidence of ovarian neoplasms was in 3rd, 4th and 5th decade of life. Benign neoplasms were peak in 3rd decade of life and malignant were in the 5th decade.

The youngest patient was a 2 years old girl and the oldest was 70 years old lady.

The commonest symptoms with which the patient presented was mass per abdomen in 42.2% cases followed by, mass per abdomen and pain abdomen in 22.8% cases.

Endometriosis and massive oedema ovary were the tumor like lesions encountered.

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