www.jmscr.igmpublication.org
Index Copernicus Value: 79.54
ISSN (e)-2347-176x ISSN (p) 2455-0450
crossrefDOI: https://dx.doi.org/10.18535/jmscr/v7i3.143

IGM Publication
Journal Of Medical Science And Clinical Research
An Official Publication Of IGM Publication

Study of Ovarian Tumours in a Tertiary Care Hospital

Authors
Dr S.Aro Shime Hercules[1], Dr Arpita Deb[2], Dr Alla Satyanarayana Reddy[3*]
[1,2]Junior Resident, [3]Professor & HOD
Department of Obstetrics & Gynaecology, Vinayaka Mission`s Research Foundation (DU), Karaikal, Puducherry.
*Corresponding Author
Dr. Alla Satyanarayana Reddy
Professor and HOD, Department of Obstetrics & Gynaecology, Vinayaka Mission`s Medical College and Hospital, Karaikal, Puducherry. 609609, India
Email: *drallasreddy@yahoo.co.in*

Abstract
Ovarian masses are a common gynaecological problem. Majority of them are non neoplasic or functional cysts, the others which are fewer in number are neoplastic, whether benign or malignant. This is a retrospective study done in the Department of Obstetrics and Gynaecology, Vinayaka Missions Medical College and Hospital, Karaikal, Union Territory of Puducherry in the calender year 2017. All the patients who attended gynaecology OPD and who were diagnosed to have Ovarian masses were included in the study. Out of 8564 patients who attended the Gynaecological OPD, 297 patients had ovarian masses, out of which 96 patients underwent surgery. Based on histopathology report, of the women with neoplastic tumours, 83.3% were benign and 16.7% were malignant.CA 125 is increased (>35 U/mL) in 38% of patients who were operated. The average CA-125 in benign Neoplastic lesions is 17U/mL and the average CA 125 in Neoplastic malignant lesions is 112 U/mL. Commonest malignancy was Serous Cyst adenocarcinoma (81.8%) followed by Mucinous Cyst adenocarcinoma (18%).

Introduction

Of all the Gynaecologic cancers, Ovarian Malignancies represent the greatest clinical challenge because they are relatively inaccessible and becoming symptomatic is late and they have a high mortality. The incidence of Ovarian tumours is increasing in developing countries[(1,2)]

The ovary is complex in its Embryology, Histology, Steroidogenesis and has the potential to develop malignancy. Ovarian masses can be non neoplastic or neoplastic. Functional & inflammatory enlargements of the Ovary occur during childbearing years. In reproductive years, 70% are functional, 20% are Neoplastic (mostly benign) & 10% are Endometriomas.

Ovarian neoplasms exhibit a wide variation in structure & biological behaviour. Unlike the Cervix and Uterus, the Ovaries are not clinically accessible, therefore, easy screening methods for detecting ovarian neoplasms are not available.

It has the highest fatality-to-case ratio of all the Gynaecologic malignancies. Ovarian cancer is the fifth most common cause of death from malignancy in Women. A Women's risk at birth

of having ovarian cancer at some point in her life time is 1% to 1.5% and that of dying from ovarian cancer is almost 0.5%[3]

The complex histology and the anatomical location of ovary are responsible for the late presentation and its management difficulties. Hence a high index of suspicion is needed.

Tumour markers and radiological assistance helps in screening in suspected cases.

More than 80% of epithelial ovarian cancers are found in Postmenopausal women. The peak incidence of Invasive epithelial ovarian cancer is at 56-60yrs of age[3,4,5].

The age specific incidence of ovarian epithelial cancer rises precipitously from 40 years of age.[5]

Ovarian cancer is associated with low parity and infertility[6]. Because parity is inversely related to risk of ovarian cancer, having atleast one child is protective for the disease, with the risk reduction of 0.3-0.4[6]. The performance of a prophylactic Salpingo-Oophorectomy significantly reduces but does not totally eliminate the risk of non uterine pelvic cancers. Peritoneal carcinomas can occur in 2% to 3%of women even after prophylactic bilateral Salpingo-Oophorectomy.[7]

Before taking the decision of removing ovaries in premenopausal women undergoing hysterectomy for benign disease, the risks and benefits should be taken into consideration. The ovaries may provide protection from cardiovascular disease and osteoporosis, and longterm mortality may not be decreased by the performance of prophylactic Oophorectomy in women at population risk of ovarian cancer [8]

Aim & Objective

1) To evaluate incidence of ovarian masses in the locality.
2) To know the incidence of benign and malignant ovarian tumours.

Material & Methods

The study was conducted in the department of Obstetrics and Gynaecology, Vinayaka Mission`s Medical College and Hospital, Karaikal, Union Territory, Puducherry, in the time period of January 2017 to December 2017. This is a retrospective study.

All the women who were clinically diagnosed to have ovarian masses, who were identified to have ovarian masses at ultrasound examination, women who were referred with a diagnosis of ovarian masses, and the women diagnosed to have ovarian masses at laparotomy are the subjects of study.

Information was extracted from the records of these women. Data of- history, clinical examination, routine investigations, Ultra sonography, CA 125, medical and surgical management, histopathology, follow up history for a minimum of three months and the results of the treatment were tabulated. The findings were analysed. Standard operating protocols of the OBG 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 analysed.

Results

During the one year study period, 8564 women attended the Gynaecology OPD. 297 were identified to have ovarian masses. Ovarian masses constituted 3.4% of the Gynaecological diseases. Of the ovarian masses 219 were diagnosed as non neoplastic and 78 were diagnosed as neoplastic masses. So, of the ovarian masses, 73.7% were non neoplastic and 26.3% were neoplastic.

All the women with non neoplastic ovarian masses were on conservative management. Some were given cyclical hormones. Ovulation induction drugs were discontinued in women who are on infertility management. Others were followed for three months for spontaneous remission of the masses. 24 women with non neoplastic ovarian masses, not responded to conservative methods were taken up for surgery.

All the women with neoplastic tumours were advised surgery. Two women refused surgery and the follow up records of four women were incomplete and so were not included in the analysis. The results of 72 women with operated neoplastic tumours were included in the analysis.

The maximum number of patients with non neoplastic cysts belong to 20-29 years age group accounting for 4.1% and in the neoplastic group, maximum patients belong to 30-39 years age group. The percentage of women with neoplastic tumours was double (1.2%) in the >40 years group when compared with women < 40 years(0.6%). The least age of the subjects was 14 years and the maximum age was 88 years.

Table 1: Age wise distribution of ovarian tumour

Age group of patients	Total number of patients attending gynaecology OPD	Number of patients with non-neoplastic masses	Number of patients with neoplastic ovarian mass		Total number of patients with ovarian pathology
			Benign	Malignant	
<20 yrs	753	8 (1.06%)	8 (1.06%)	-	16 (2.1%)
20-29 yrs	2602	107 (4.1%)	13 (0.4%)	-	107 (4.6%)
30-39 yrs	3240	63 (1.9%)	21 (0.6%)	1 (0.03%)	85 (2.6%)
40-49 yrs	1037	38 (3.7%)	12 (1.1%)	4 (0.38%)	54 (5.2%)
>50 yrs	932	3 (0.3%)	11 (1.2%)	8 (0.85%)	22 (2.3%)
Total	8564(100%)	219(2.56%)	65 (0.76%)	13(0.15%)	297(3.47%)

Patients with ovarian pathology present with diverse symptoms. In our study, the most common presenting symptom was abdominal pain (70.3%) followed by pelvic heaviness (36%), abdominal lump (32.6%), GIT symptoms (30.9%), urinary symptoms (9.7%), and 19.5% were asymptomatic.

Table 2 : Presentation of patients

PRESENTATION	NUMBER OF PATIENTS	PERCENTAGE *
Abdominal pain	209	70.3%
Pelvic heaviness	107	36%
Abdominal lump	97	32.6%
GIT symptoms	92	30.9%
Urinary symptoms	29	9.7%
Asymptomatic	58	19.5%

*Some patients had multiple symptoms

96 patients with ovarian pathology were treated surgically based on the non- neoplastic or neoplastic lesions. Out of 96 patients, 24 patients had non neoplastic ovarian pathology, who had not responded to hormonal therapy and 72 patients had neoplastic lesions. The various surgeries patients underwent were simple cystectomy, unilateral or bilateral ovariectomy, relook surgery, either by laparoscopy or open techniques, extensive surgeries like staging surgeries, debulking surgeries. In all the patients who underwent surgery, the specimen was sent for histopathological examination and the reports were compared.

Table 3: Types of surgery

TYPE OF SURGERY	LAPAROSCOPY	OPEN SURGERY
Unilateral ovarian cystectomy	32	6
Bilateral ovarian cystectomy	7	-
Unilateral ovariotomy	4	1
Total abdominal hysterectomy with bilateral saphingo oophorectomy	-	31
Extensive surgery (TAH with BSO with pelvic lymph node dissection with or without omentectomy)	-	14
Relook surgery	1	

Table 4: Distribution of various types of non neoplastic ovarian lesions

NON NEOPLASTIC LESIONS	NUMBER OF CASES
Functional cyst	94
Follicular cyst	75
Luteal cyst	34
Haemorrhagic cyst	9
Endometriotic cyst	7
Total	219

In our study 219 patients had non neoplastic ovarian pathology. Among them, functional cyst was most common (42.9%).

Table 5: Various types of neoplastic lesions

TYPE OF TUMOUR	NUMBER OF PATIENTS	PERCENTAGE
Serous Cystadenoma	27	37.5%
Mucinous Cystadenoma	19	26.3%
Teratoma	16	22.2%
Fibroma	1	2.0%
Serous Cystadenocarcinoma	7	9.7%
Mucinous Cystadenocarcinoma	2	4.1%

Among the neoplastic lesions, 83.3% were benign and 16.67% were malignant. The most common benign neoplastic ovarian mass was serous cystadenoma (37.5%). In the malignant group, the most common type was serous cyst adenocarcinoma.

Table 5: Types of surgery

TYPE OF SURGERY	LAPAROSCOPY	OPEN SURGERY
Unilateral ovarian cystectomy	32	6
Bilateral ovarian cystectomy	7	-
Unilateral ovariotomy	4	1
Total abdominal hysterectomy with bilateral salpingo- oopherectomy	-	31
Extensive surgery (TAH with BSO with pelvic lymph node dissection with or without omentectomy)	-	14
Relook surgery	1	

Discussion

In our study, the incidence of ovarian masses is 3.4% (297/8564) in outpatient attendies.219 patients had non neoplastic masses, they were treated with hormonal therapy and followed up for three months. Among these 24 patients did not respond to conservative hormonal therapy, and showed persistence of symptoms, or increase in size of ovarian cyst or these were the reason for infertility. Among 297 patients, 78 patients were diagnosed to have neoplastic lesion. Among them, 65 had benign neoplastic lesion and 13 had malignant neoplastic lesion.

The presentation of ovarian pathology is variable. According to our study, 70.3 % came with abdominal pain followed by pelvic heaviness (36%) and 19.5% were asymptomatic. According to Muhabat Q et al 19.6% patients were asymptomatic.[9] Similar study was done by Jha et al where 83.9% of benign and 16.1% were Malignant.[10]

In our study, 96 patients underwent surgery for ovarian pathology. Some of the patients with neoplastic ovarian mass were not willing for surgery (2 patients) or were lost to follow-up (4 patients) and so was not operated. The histopathology reports were compared and results were analysed.

Out of the study population, 24 patients had ovarian cystic lesion during antenatal period and

so was not included in the study. However they were followed up in the postnatal period and regression in the size of the cystic lesion was observed.16 of them was receiving infertility treatment. Four patients had post abortal cystic ovarian masses

CA 125 is increased (>35 U/mL) in 38% of patients who were operated. The average CA-125 in benign neoplastic lesions is 17 U/mL and the average CA 125 in neoplastic malignant lesions is 112 U/mL .

Conclusion

Three fourths of the ovarian masses in the reproductive age group are non neoplastic, one fourth are neoplastic. In the neoplastic ovarian tumours one in six is malignant, five out of six are benign. Functional ovarian masses is more in the women with infertility or in women who are on infertility treatments. Cysts in the ovaries are not uncommon in the first trimester of pregnancy or in the postnatal or postabortal period.

Conflict of interest: Nil

References

1. Parkin DM, Whelan SL, Ferlay J, Raymond L, Young J. Cancer incidence in five continents 1997. VII Lyon France: International agency for research on cancer and International association of Cancer registries; IARC scientific publications NO. 143.1997.
2. Pisani P. Burden of cancer in developing countries, IARC scientific Pub. 1994; 129; 31-9.
3. Scully RE, Young RH, Clement PB. Tumors of the ovary, Maldeveloped gonads, fallopian tube and broad ligaments. In:Atlas Of Tumor Pathology. Washington, DC: Armed Forces Institute of Pathology, 1998: Fascicle 23, 3rd series.
4. Berek JS, Friedlander M, Hacker NF, Epithelial ovarian, fallopian tube and peritoneal cancer. In: Berek and Hacker's Gynaecologic oncology. 5th ed Philadelphia, PA: Lippincott Williams & Wilkins, 2009:443-508.
5. Pecorelli's, Odicino F, Maisonneuve P, et al Carcinoma of the ovary, Annual report on the results of treatment of Gynaecological cancer, Vol 23. International Federation of Gynecology and Obstetrics. J Epidemiol Biostat 1998; 3:75-105.
6. Negri E, Franceschis, Tzonou A, et Al. Pooled analysis of three European case control studies of epithelial ovarian cancer: I reproductive factors and risk of Epithelial ovarian cancer. Int J cancer 1991; 49:50-56.
7. Piver MS, Jishi MF, Tsukada y et al. Primary peritoneal carcinoma after prophylactic oophorectomy in women with a family history of ovarian cancer: a report of Glida Radner Familial ovarian cancer registry cancer. 1993; 71:2751-2755.
8. Parker WH, Broder MS, Chang E,et al ovarian conservation at the time of hysterectomy and longterm health outcomes in the Murser's health study. Obstet gynecol 2009; 113:1027-1037.
9. Muhabat Q, Waheed F, Waqarunissa, Jabeen N. Clinical presentation of ovarian tumors. Open J Obstet Gynecol 2016; 6: 205-9.
10. Jha R, Karki S.Histological pattern of ovarian tumors and their age distribution. *Nepal med Coll* J 2008; 10: 81-5.