International Journal of Medical Science and Clinical Inventions 4(10): 3222-3225, 2017
DOI:10.18535/ijmsci/v4i10.02 **ICV 2015: 52.82**
e-ISSN:2348-991X, p-ISSN: 2454-9576

Research Article

A Retrospective Clinicopathological Study of Ovarian Tumours

Kaur Khushpreet [1], Garg Rama[2], Kaur Arvinder [3], Aggarwal Sangeeta [4],Kaur Vishavveer [5]

[1]Professor, [2]Assistant Professor, [3]Associate Professor ,[4]Assistant Professor,[5]Post Graduate Student
Department of Obstetrics and Gynaecology, Government Medical College and Rajindra Hospital,Patiala

Corresponding Author: Rama Garg

Abstract:

Background : Ovarian neoplasms have become increasingly important not only because of the large variety of neoplastic entities but more because they have gradually increased the mortality rate due to female genital cancers .A total of 56 cases of ovarian tumours were studied at the Department of Obstetrics and Gynaecology, Government Medical College and Rajindra Hospital, Patiala during the period January 2016 to June 2017 to find out the frequency of different histological patterns of ovarian tumours. Among 56 cases, 35 (62.5%) were malignant and 21(37.5%) were benign. The common histological pattern observed in the study was epithelial tumours. The commonest benign tumor was serous cystadenoma, while ; the commonest malignant tumour was mucinous cystadenocarcinoma. Maximum number of benign tumours were in age group 21-40 years. All malignant tumours were in age group 41-60 years. Vague complaints like pain lower abdomen, back pain were the presenting symptoms.

Keywords: Ovarian neoplasms, surface epithelial tumour, malignancy.

INTRODUCTION

Ovarian tumours account for 30% of all cancers of the female genital tract.[1] A number of non – neoplastic and neoplastic lesions occur within the ovaries. They can present from the neonatal period to post menopause. They present themselves in various clinical forms and surprisingly many a time as vague, non-gynaecological complaints. Some of the non neoplastic lesions can be confused with neoplasms clinically, intraoperatively, or on pathological examination.[2] Ovarian tumours also present in a wide spectrum of histopathological patterns. Many ovarian tumours are asymptomatic in the early stages and are unfortunately diagnosed in the advanced stage. The high mortality rate of ovarian cancer is due to its late detection, thus earning itself the term "Silent Killer"[3]. Ninety percent of adenexal masses are detected by pelvic ultrasound.[4] This provides an information about the origin of the adenexal mass. Further, details of the tumour like its complexity, its vascularity and consistency are made out on ultrasound imaging. The definitive diagnosis of the tumour however is by

histopathological study.[5,6] For a clinician, the practical method for screening for an adenexal mass is a bimanual pelvic examination done routinely in the outpatient department.[7] Tumour markers also help in identification of ovarian masses. Adjunctive diagnostic techniques like MRI and CT help further in identifying metastasis of the tumour.

Recent statistics in developed countries report better survival rates in patients with ovarian tumours; this being due to early detection and early appropriate treatment.[8]

METHODS

This study was done retrospectively in the department of

Obstetrics & Gynaecology at Government Medical College and Rajindra Hospital, Patiala. All cases of ovarian masses from 1st January, 2016 to 30th June, 2017 were studied. There were 56 patients with ovarian masses who were admitted in department during the period of one and half year. The patients who underwent surgery were included in the study. Ovarian tumours managed conservatively were excluded from the study. Data like age, clinical symptoms, details of the mass like size, laterality and histopathology were collected and statistically studied.

RESULTS

A total of 56 patients who presented with ovarian masses formed the study group. Amongst 56 lesions, there were 35 neoplastic tumours and 21 non neoplastic lesions. Amongst the neoplastic lesions, 85.7% (30/35) were benign, 11.4% (4/35) were malignant and there was only 2.8% (1/35) with borderline malignant histopathology. Maximum number of benign tumours were in 21-40 year age group. All the malignant tumours [100% (4/4)] were in 41-60 year age group.(Table 1

Age in yrs.)	Serous Tumours		Mucinous tumours			Germ Cell Tumours	Sex cord tumour	Follicular cyst	Corpus luteal cyst	Haemorrhagic cyst	Chronic inflammation	Ectopic	Chocolate cyst	Fibroid	Endometroid cyst	Un-remarkable
	B	M	B	BL	M											
<20	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
21-40	10	0	0	1	0	4	0	4	2	2	2	4	1	0	1	1
41-60	4	1	3	0	3	1	3	0	0	1	1	0	0	1	0	1
>60	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0

Table - 1 : Distribution of ovarian masses in different age groups

B=Benign M=Malignant BL=Borderline

Serous cystadenomas (42.8%), followed by germ cell tumours (17.1%), granulosa cell tumours (11.4%) and mucinous cystadenoma (11.4%) were the most common benign tumours. There was 1 case of fibroma. Out of the 4 malignant tumours, 3(11.4%) were mucinous cystadenocarcinoma and 1(2.85%) was serous cystadenocarcinoma. The only one (2.85%) borderline malignant tumour belonged to the mucinous group.(Table 2)

Table 2 : Histopathological distribution of ovarian neoplasms

Total=35

Histopathology of Tumours	No. of Neoplasms-35	Percentages
A) Surface Epithelial Tumours	24	68.5
1) Serous tumours	16	45.7
serous cystadenoma	15	42.8
serous cystadenocarcinoma	1	2.85
2) Mucinous tumours	8	22.86
mucinous cystadenoma	4	11.4
mucinous cystadenocarcinoma	3	8.57
Borderline mucinous cystadenocarcinoma	1	2.85
B) Germ Cell Tumours	6	17.14
1) Benign cystic teratoma	6	17.14
2) Struma ovary	0	0
C) Sex Cord Stromal Tumour	5	14.28
1) Fibroma	1	2.85
2) Granulosa cell tumour	4	11.4

Amongst the non neoplastic lesions, commonest was follicular cyst 19.04% (4/21) and ectopic pregnancy 19.04% (4/21),followed by haemorrhagic cyst 14.2%(3/21).(Figure 1) Pain lower abdomen followed by vague complaints were the major presenting symptoms in these patients.(Figure 2)

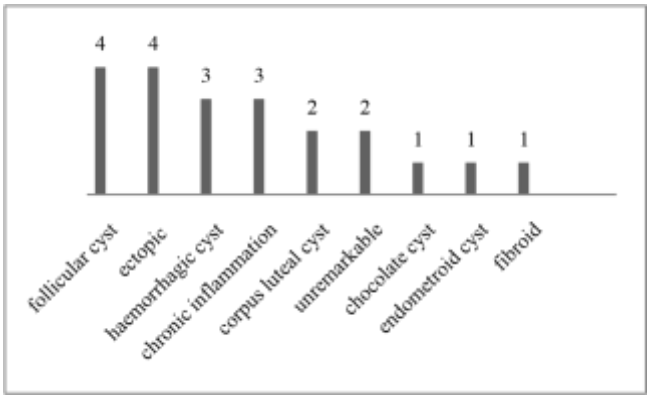

Figure 1: Distribution of non-neoplastic lesions (n=21)

DISCUSSION

In this study, out of 56 ovarian lesions, 51were benign (91.07%), 4 were malignant (7.14%) and 1(1.78%) was borderline malignant tumour. WHO classification of ovarian tumors is based on the tissue of origin-epithelial, germ cell and sex cord stromal tumours.[9] It is globally seen that, surface epithelial tumours are the most common ones. Our study also is in favour of this observation (Table 2). Epithelial tumours 68.5% (24/35) formed the main bulk of neoplasms observed in the study. The majority of epithelial tumours were serous tumours(45.7%) followed by mucinous(20%) and germ cell tumours(17.14%).Among serous tumours, serous cystadenoma constituted 42.8% and serous cystadenocarcinoma was 2.85%. Among mucinous tumors 11.4% were cystadenoma, 8.57% were mucinous cyst adenocarcinomas and 2.85% with borderline pathology. Among the germ cell tumours all were benign cystic teratomas. There was 1 case of fibroma and 4 cases of granulosa cell tumor (11.4%). The frequency of distribution of ovarian tumours in the present study was similar to that as reported by Swami G et al. They reported an incidence of 61.6% of epithelial tumours and 21.7% of germ cell tumours.[10] This was in concordance with the study by Mondal who reported surface epithelial tumours to be the most common (67.9%) and germ cell tumours(23.1%).[11] Gupta N and Ahmad Z reported similar high incidences-98.8% and 63.5% respectively , in their studies.[12,13] In our study benign tumours were more in the reproductive age group 21-40 yrs(Table 1)..A similar number of benign tumours were also seen in the perimenopausal group(41-60 yrs). All 4 patients diagnosed with malignant ovarian tumours were in the older group(41-60 yrs). The single borderline tumour was present in the younger age group(21-40 yrs).Manivasakan J observed an equal distribution of benign tumours in the reproductive and perimenopausal age groups.[14] On the contrary, Ashraf's study reported a higher percent (71.4%) of malignant tumours in the reproductive age group. Most of the available literature from the western world report ovarian cancer to be more in the elderly perimenopausal women.[15,16] Common clinical presentations in this study for both neoplastic and non neoplastic lesions were pain abdomen and back pain.Cause of this abdominal pain was due to torsion only in 2 patients. After this , abdominal lump was the chief complaint .Patients

also presented with vague complaints such as nausea, vomiting ,constipation. One pregnant women was diagnosed as having ovarian mass during routine antenatal ultrasound. Gastrointestinal symptoms like dyspepsia , nausea and vomiting, usually more in malignant tumours were present in both groups. Menstrual complaints were present in 2 patients. (Figure 2)

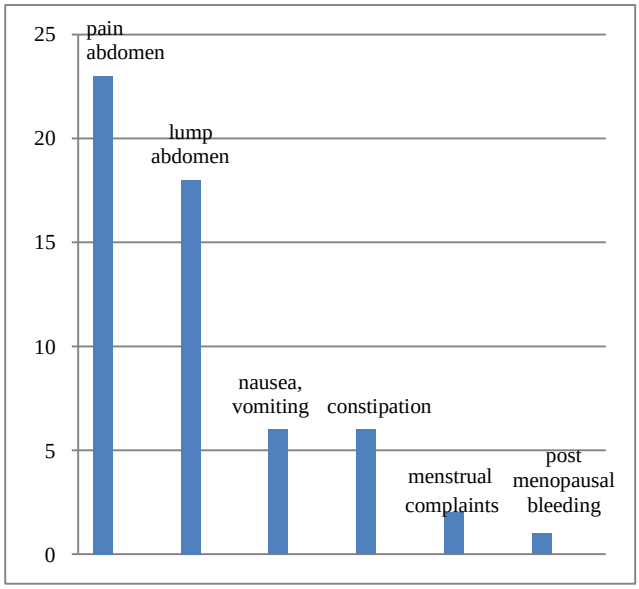

Figure 2: Clinical Presentation of Patients Mankar DV reported only 5% of menstrual abnormalities and observed common presentations of abdominal pain and lump .A notable fact was that abdominal pain was present equally in both malignant and benign groups. Interestingly 43% abdominal masses were associated with benign lesions.[17] This study shows 11 cases of bilateral involvement of ovarian tumours with the same histopathology(Table 3). Majority of tumours were on the left side. The low number of bilateral tumours in neoplastic lesions in this study was due to decreased number of malignant ovarian tumours .Studies conducted by Mondal showed that bilateral ovarian tumours were usually malignant in nature. Bilaterality was seen in 49.5% of malignant serous tumours and 28.1% of mucinous tumours.[11] **Table 3: Distribution of Laterality of Ovarian Masses**

Ovarian tumors	Right	Left	Bilateral
Serous	5	9	2
Mucinous	2	3	2
Germ cell	2	3	1
Sex cord stromal tumour	2	1	2
Follicular cyst	1	2	1
Haemorrhagic cyst	1	2	0
Ectopic	2	1	1
Chronic non specific inflammation	1	1	1
Corpus luteal cyst	1	0	1
Chocolate cyst	1	0	0
Endometroid cyst	0	1	0
Fibroid	0	1	0
Unremarkable	1	1	0

CONCLUSION

Benign ovarian neoplasms were seen similarly in both reproductive and perimenopausal age groups. Malignant tumours were all in the postmenopausal group. Based on histopathology, most common neoplasm was surface epithelial tumours- serous tumours, then mucinous followed by germ cell tumours. Most common non neoplastic lesion was follicular cyst. Ovarian masses were more common on the left side with only few showing bilateral involvement. Abdominal pain followed by vague symptoms were the most common clinical presentation seen. It is therefore important that in women aged 50 year and above the non specific symptoms related to gastrointestinal system or abdominal involvement should be assessed carefully. Bimanual pelvic examination and ultrasound should be done early in these patients, so that ovarian cancer diagnosis may not be missed. Presentation of ovarian tumours is mostly vague and non-specific, but the symptoms are definitely present. The recognition of these symptoms is therefore stressed for early diagnosis of ovarian tumours.

REFERENCES

1. Benson RC. Diagnosis and treatment. Current Obstet Gynaecol 1976;1:236.
2. Clement PB. Selected miscellaneous ovarian lesions: small cell carcinomas, mesothelial lesions, mesenchymal and mixed neoplasms, and neoplastic lesions. Modern Pathol 2005; 18: 113-29.
3. Jaffer Y, Ehsan N, Ambreen. Clinical presentation of ovarian tumours. Journal of Surgery Pakistan (International). 2013;18(2): 82-6.
4. Brown DL, Dudiak KM, Laing FC. Adenexal masses: US characterisation and reporting. Radiology. 2010; 254(2): 342-54.
5. Gentry-Maharaj A, Menon U.Screening for ovarian cancer in the general population. Best Pract Res Clin Obstet Gynaecol.2012;26:243-56.
6. Attuneueci CA, Ball HG, Zweizig SL, Chen AH. Differences in symptoms between patients with benign and malignant ovarian neoplasms. Am J Obstet Gynecol. 2004; 190: 1435-7.
7. Rock JA, Jones HW. Ovarian cancer; etiology, screening and surgery. Te Linde's Operative Gynaecology; 2011:1307-1339.
8. Coleman MP, Estere J, Damiecki P. Trends in Incidence and Mortality, Lyon, IARC. 1993; 121:1-801.
9. Sesdhari L. Malignant diseases of the ovary and fallopian tube. In Essentials of Gynaecology, 1st Ed. Wolters Kluwer (India) of Lippincott Williams and Wilkins; 2011: 418-440.

10. Swamy GG, Satyanarayana N. Clinicopathological analysis of ovarian tumor- a study on five year samples. Nepal Med Coll J. 2010;12 (4):221-3.

11. Mondal SK, Bandopadhyay R, Nag DR, Roychowdhary S, Mondal PK, Sinha SK. Histological pattern , bilaterality and clinical evaluation of 957 ovarian neoplasms . A 10 year study in a tertiary hospital of Eastern India. J Can Res Ther. 2011;7:433-7.

12. Gupta N, Bisht D, Agarwal AK, Sharma VK. Retrospective and prespecyive study of ovarian tumors and tumor- like lesions. Indian J Pathol Microbiol. 2007; 50:525-7.

13. Ahmad Z, Kayani N, Hasan SH, Muzaffar S, Gill MS. Histological pattern of ovarian neoplasm. J Pak Med Assoc. 2000;50:416-19.

14. Manivasakam J, Arounssalame B. A study of benign adenexal masses. Int J Reprod Contracept Obstet Gynecol.2012; 1(1);12-6.

15. Poole J, Nordin A. Trent cancer registry. Profile of ovarian cancer in England; 2012.

16. Quirk JT, Natarajan N. Ovarian cancer incidence in the

    United States 1992-1999. Gynaecol Oncol.2005; 97:51923.

17. Mankar DV, Jain GK. Histopathological profile of ovarian tumors: a twelve year institutional experience. Muller J Med Sci Res. 2015; 6: 107-11.