Original Research Article

Clinicopathological study of benign ovarian tumuors

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ABSTRACT

Background: The incidence of ovarian tumor amongst gynecological admissions have been reported to vary from 1-3 %. About 75% of these tumors have been found to be benign. Ovarian malignancies represent the greatest clinical challenge of all the gynecological malignancies. During the reproductive years most of the ovarian tumors encountered are benign. About 2/3 of the ovarian tumors are encountered in this group only. The chance that an ovarian tumor is malignant in a patient younger than 45 years is 1 in 15. The differentiation of the benign from malignant tumors can go wrong even with imaging modalities.CA125 along with ultrasound are useful in differentiating benign from malignant tumors. Histopathological examination is gold standard for diagnosis of ovarian neoplasm.

Methods: The present study includes consecutive cases of histopathologically proven ovarian tumors of 3 years from June 2010 to May 2013 reported by the Department of Pathology of our tertiary care center. It includes total 150 cases. After careful study of gross findings, appropriate bits were taken from received ovarian specimen, followed by routine paraffin processing to make H and E stained slides. Special stains were used wherever needed.

Results: Majority of the cases 91 (60.67%) were benign, 53 (35.33%) were malignant and 6 (4.0%) were borderline. Surface epithelial tumours were the most common type (68.13%) of ovarian neoplasm in this study. Most of tumours in our study occurred in the age group of 21-40 years. Mucinous cystadenomas were most common benign surface epithelial tumour and most common benign tumors overall. There were 22 cases of benign germ cell tumor, all were mature teratoma. All the sex-cord stromal tumours were diagnosed in women older than 40 years. Most common benign lesion in our study is surface epithelial tumour and in age group of 21-40 years. 84% patients studied had symptoms at presentation, out of which 26% of patient presented with dull/dragging pain. Pan hysterectomy was the most common procedure for surgical management.

Conclusions: Most of ovarian neoplasm are benign with mucinous cystadenoma being commonest entity. Commonest age group is 21-40 years. Commonest benign germ cell tumor is Mature cystic teratoma. Commonest clinical symptom is dull/dragging pain. Pan hysterectomy was the most common procedure for surgical management.

Keywords: Dragging pain, Mucinous cystadenoma, Mature cystic teratoma, Pan hysterectomy

INTRODUCTION

The incidence of ovarian tumor amongst gynecological admissions have been reported to vary from 1-3%. About 75% of these tumors have been found to be benign. Ovarian malignancies represents the greatest clinical challenge of all the gynecological malignancies. During the reproductive years most of the ovarian tumors encountered are benign. About 2/3 of the ovarian tumors are encountered in this group only. The chance that an ovarian tumor is malignant in a patient younger than 45 years is 1 in 15.[1] The bimanual examination is the most practical method of screening for an adnexal mass. Adjunctive diagnostic techniques like sonography, MRI and CT may help to deliniate the nature of adnexal enlargement.[2] The differentiation of the benign from

malignant tumors can go wrong even with imaging modalities.[3] CA125 along with ultrasound utilizing multivariate logistic regression analysis algorithms were useful in differentiating benign from malignant tumors. Ovary can give rise to a great range and variety of tumors than any other organ in the body. The tissue from which the ovarian tumor arises is often uncertain and the mode of development of the presumptive tissue is often disputed.[4]

Aim and objectives was to study, diagnose and classify excised ovarian lesions and to further analyze benign ovarian tumors

METHODS

Source of data

The present study includes consecutive cases of histopathologically proven ovarian tumors of 3 years from June 2010 to May 2013 reported by the Department of Pathology of our tertiary care center .It includes total 150 cases.

Inclusion criteria

All consecutive cases of histopathologically proven ovarian tumors specimens received in the Department of Pathology of our institute during June 2010 to May 2013.

Exclusion criteria

All non-neoplastic or tumor-like lesions of the ovary were excluded.

After careful study of gross findings, specimens were fixed in formalin overnight. Appropriate bits were taken from received ovarian specimen, followed by routine paraffin processing to make H and E stained slides. Special stains were used wherever needed.

RESULTS

Out of total 150 cases majority of the cases 91 (60.67%) were benign, 53 (35.33%) were malignant and 6 (4.0%) were borderline (Table 1).

Table 1: Distribution of benign ovarian tumors according to histopathological type.

Benign tumors	Number of cases
Surface epithelial tumor	62
Sex cord stromal tumor	07
Germ cell tumor	22

Study of those 91 benign ovarian neoplasm revealed 62 cases were surface epithelial tumors, 7 cases were sex cord stromal tumors and 22 cases were germ cell tumors (Table 2).

Table 2: Distribution of benign ovarian tumors according to age group.

Age group	Number of cases
10-20 years	7
21-30 years	20
31-40 years	26
41-50 years	21
51-60 years	11
61-70 years	5
More than 70 years	1
Total	91

Out of total 91 cases 46 (50.54%) cases were in between age group of 21-40 years. Benign ovarian tumors are common in active reproductive age group, but sex cord stromal tumors occurs in late reproductive age group (after 40 years of age). In post-menopausal women malignant neoplasm of ovary were more common than benign (Table 3).

Table 3: Distribution of benign surface epithelial ovarian tumors according to histopathological type.

Surface epithelial tumors	Number of cases
Serous	27
Mucinous	30
Seromucinous	01
Transitional cell	02
Adenofibroma	02
Total	62

Mucinous cystadenomas were most common benign surface epithelial tumor and most common benign tumors overall, followed by serous cyst adenoma. There were 22 cases of benign germ cell tumor, all were mature teratoma (Table 4).

Table 4: Distribution of benign sex-cord stromal ovarian tumors according to histopathological type.

Sex cord stromal tumors	Number of cases
Thecoma	1
Fibroma	3
Fibrothecoma	3
Total	7

All the sex-cord stromal tumors were diagnosed in women older than 40 years. Most common benign lesion in our study is surface epithelial tumor and in age group of 21-40 years (Table 5, Table 6).

Out of 91 patients 77 (84%) had symptoms at time of admission, while 14 were asymptomatic (incidental-pan hysterectomy done for other reason). Among 77 patients who had symptoms, dull aching dragging pain per abdomen was most common symptom (Table 7).

Table 5: Distribution of histopathological subtypes of tumors according to age at presentation.

Age group	Surface epithelial tumor	Sex-cord stromal tumor	Germ cell tumor
Up to 20 yrs	3	0	4
21-40 years	33	00	12
41-60 years	19	07	06
41-60 years	07	00	00
Total	62	07	22

Table 6: Distribution of cases according to clinical presentation.

Clinical presentation	Number of cases
Dull/dragging pain per abdomen	24
Acute pain per abdomen	16
Abdominal distension	07
Urinary frequency	09
Abnormal bleeding per vaginum	04
Lump per abdomen	07
Weight loss/anorexia	00
Constipation	05
Bleeding per rectum	00
Infertility	01
Other	04
Asymptomatic	14

Table 7: Distribution of tumors according to laterality of occurrence.

Laterality	Number of cases
Right side	52
Left side	26
Bilateral	13

Out of 91 cases 78(85%) cases were unilateral, where as 13 (15%) cases were bilateral .ou of 78 caeses 52 cases were unilateral (Table 8).

Table 8: Distribution of cases according to gross dimensions.

Size	Number of cases
0-5cm	11
6-10cm	34
11-15cm	24
More than 15cm	22

In this study, the most common age group was 21-40 years, and majority of benign lesions were more than 6cm in size; But in post menopausal women, an ovarian tumor less then 5cms in size is 95% benign in nature, if size is 5-10cm there is 88% likelihood of that neoplasm to be beign and if size over 10 cms ,only 40% such tumors are benign (Table 9). In this study, pan hysterectomy was the most common procedure for surgical management, followed by salpingo-oophorectomy.

Table 9: Distribution of ovarian tumors according to the surgical procedure adopted for management.

Procedure	Number of cases
Pan hysterectomy	31
Total abdominal hysterectomy with salpingo-oophorectomy	20
Salpingo-oophorectomy	23
Oophorectomy	07
Cystectomy	10

DISCUSSION

Out of total 150 cases majority of the cases 91 (60.67%) were benign, 53 (35.33%) were malignant and 6 (4.0%) were borderline. Findings of present study are in concordance with studies done by Ahmad et al, Gupta et al and Swamy et al.[5-7]

Surface epithelial tumors were the most common type (68.13%) of ovarian neoplasm in this study. This agreed with findings of other studies by Zaman et al, Gupta et al and Pilli et al.[8,6,9] Germ cell tumors (24%) were the second most common type of tumors, followed by sexcord stromal tumors (7.69%) which agreed with findings of Pilli et al, Swamy et al, Jha et al and Gupta et al.[9,7,10,6]

Most of tumors in our study occurred in the age group of 21-40 years, that is similar to studies done by Pilli et al, Shah et al and Jha et al.[9,11,10]

The 84% patients studied had symptoms at presentation, out of which 26% of patient presented with dull/dragging pain; which agreed with the findings of Wasim et al, Yasmin et al and Shah et al.[11-13]

Laterality analysis showed right side (57%) involvement is more common than left side, this finding is similar with findings of Srinivas K et al, and Pilli et al.[14,9]

In this study, pan hysterectomy was the most common procedure for surgical management, which is agreed with findings of Shah et al.[11]

CONCLUSION

Majority of the cases were benign, surface epithelial tumors were the most common type of ovarian neoplasm in this study. Most of tumors in our study occurred in the age group of 21-40 years. Mucinous cystadenomas were most common benign surface epithelial tumor and most common benign tumors overall. All benign germ cell tumor were mature teratoma. All the sex-cord stromal tumors were diagnosed in women older than 40 years. Most common benign lesion in our study is surface epithelial tumor and in age group of 21-40 years. Majority of patients with ovarian neoplasm had symptoms at time of admission, and dull aching dragging

pain per abdomen was most common symptom. Pan hysterectomy was the most common procedure for surgical procedure done as management.

REFERENCES

1. Berek JS. Berek and Novak's Gynecology. 15th edition, Lippincott Williams and Wilkins, 2011.
2. Jones HW, Rock JA. Te Linde's operative gynecology. 10th Edi. Lippincott Williams & Wilkins; 2011.
3. Timmerman D1, Bourne TH, Tailor A, et al. A comparison of methods for preoperative discrimination between malignant and benign adnexal masses: the development of a new logistic regression model. Am J Obstet Gynecol. 1999 Jul;181(1):57-65.
4. Kumar P, Jeffcoate's MN. Principles of gynecology. New Delhi: 7th edi. Jaypee Brothers Medical Publishers. 2008:617-24.
5. Ahmad Z, Kayani N, Hasan SH, Muzaffar S, Gill MS. Histological pattern of ovarian neoplasma. J Pak Med Associa. 2000;50(12):416-9.
6. Gupta N. Retrospective and prospective study of ovarian tumors and tumor like lesions. Ind J Patho Micro. 2007;50(3):525-7.
7. Swamy GG, Satyanarayana N. Clinicopathological analysis of ovarian tumours-A study on five years samples. Nepal Med Coll J. 2010 Dec;12(4):221-3.
8. Zaman S, Majid S, Hussain M, Chughtai O, Mahboob J, Chughtai S. A retrospective study of ovarian tumours and tumour-like lesions. J Ayub Med Coll Abbottabad. 2010 Mar 1;22(1):104-8.
9. Pilli GS, Suneeta KP, Dhaded AV, Yenni VV. Ovarian tumours: a study of 282 cases. J Ind Med Associa. 2002 Jul;100(7):420-3.
10. Jha R, Karki S. Histological pattern of ovarian tumors and their age distribution. Nepal Med Coll J. 2008 Jun;10(2):81-5.
11. Shah S. Incidence and management of ovarian tumors. Bombay Hosp J. 2008;50(1):81-5.
12. Wasim T, Majrroh A, Siddiq S. Comparison of clinical presentation of benign and malignant ovarian tumours. JPMA. 2009 Jan 1;59(1):18.
13. Yasmin S, Yasmin A, Asif M. Clinicohistological pattern of ovarian tumours in Peshawar region. J Ayub Med Coll Abbottabad. 2008 Dec 1;20(4):11-3.
14. Srinivas K, Babu H, Malini KV. Retrospective study of clinical and pathological features of benign ovarian tumors. Sch J App Med Sci. 2015;3(3A):1046-50.