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Benign ovarian tumours in a tertiary care hospital: A 10 year histopathological study

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***Abstract*---**Objectives: To find out frequency of types and subtypes of Benign Ovarian Neoplasms and to compare it with other studies. Methodology: A 10 year retrospective study of Benign ovarian tumours ,specimens of that were received and diagnosed in the Department of Pathology, R.N.T. Medical College, Udaipur Rajasthan . This study was conducted for a period of 10 years from Jan 2004 to Dec 2013 Results: The study was carried out on 472 specimens , for the period from January 2004 to December 2013 (only retrospective) of ovarian neoplasm that were received in the Histopathological section of Pathology department, R.N.T. Medical College, Udaipur. Total of 472 ovarian tumors were analysed out of which 355 (75.21%) were Benign. In the benign tumors of the ovary, number of serous cystadenoma was maximum, accounting to 151(42.55%) cases followed by benign cystic teratoma 125 (35.21%) cases and 67 (18.87%) cases Mucinous cystadenoma, 4 cases(1.12%)Benign Brenner tumor), 6 cases (1.69%) Fibroma and 2 (0.56%)cases were of Fibrothecoma . Conclusion:In the benign tumors of the ovary, number of serous cystadenoma was maximum, accounting to 151(42.55%) cases followed by benign cystic teratoma 125 (35.21%) cases and 67 (18.87%) cases were Mucinous cystadenoma.

Keywords---benign ovarian tumours, serous cystadenoma, cystic teratoma, neoplasms, histologic types.

Introduction

The ovarian tumors are not a single entity, but a complex wide spectrum of neoplasms involving a variety of histological tissues, ranging from epithelial tissues, connective tissues, specialized hormone secreting cells to germinal and embryonal cells[1]. The ovary is complex in its embryology, histology ,steroidogenesis and has potential to develop malignancy. Therefore ovarian neoplasms exhibit wide variation in structure and biological behaviour [1]. The ovary, after uterus and cervix, is the second common site for the development of gynecological malignancy and the prognosis remains poor[1]. No cost effective screening test for the ovarian tumors exists. Unfortunately, patients with ovarian tumors are symptom free for a long time and the signs are often nonspecific. More than 50% of the patients are diagnosed in the advanced stage of the disease[2].

All primary ovarian tumours tend to originate from one of the four structures that make up the composite ovarian organ notably the surface epithelial cells, the germ cells, the sex cords and the specialized ovarian stroma[3,4]. Interestingly, no other organ gives origin to a wide range of histogenetic tumours as the ovaries[5,6]. Benign cystic tumours of the ovaries are the fourth most common gynecological causes of hospital admissions[7]. Worldwide figures show that about 80% of ovarian neoplasms are benign, occurring mostly in the 20 – 45 years age range[4]The complex nature, unpredictable behaviour and prognosis, controversial management make ovarian tumors a difficult problem for the gynaecologist. The histogenesis of many tumours are inter-related and accurate histopathological diagnosis is needed for the effective treatment. So our study aims to show the histopathologic pattern and distribution of benign ovarian tumours and then compare the results from other centres with the hope that the study will give contribution in histologic diagnosis of ovarian tumours .

Methodology

The study was carried out in the Department of Pathology, R.N.T. Medical College, Udaipur Rajasthan . This study is conducted for a period of 10 years from Jan 2004 to Dec 2013. The cases reported during the above mentioned time period, were taken from the records of the pathology department of R.N.T. Medical College Udaipur. Hematoxylin & Eosin stain for morphology of ovarian tissue was performed. The present study is retrospective and descriptive study and the values are mentioned in percentages. The histopathological reports done at that time for respective ovarian neoplasms , were studied again within the study period . The original slides of all the benign neoplastic lesions were also taken out from indexed slides and reviewed. Cases of benign ovarian tumours with incomplete biodata or those with missing slides and blocks were excluded.

Results

472 cases of ovarian tumors taken from Department and Histopathology section of Pathology, R.N.T. Medical College, Udaipur. Out of 472 cases, 355 (75.21%) were Benign, 110 (23.30%) were malignant and 7(1.49%) cases were borderline tumours

Table 1: Morphologic type of ovarian tumours

S.No.	Type	No. of cases	% of cases
1	Benign	355	75.21%
2	Borderline	7	1.49%
3	Malignant	110	23.30%
4	Total	472	100%

In the benign tumors of the ovary, number of serous cystadenoma was maximum, accounted for 151 cases followed by benign cystic teratoma 125 cases and mucinous cystadenoma 67 cases (Table 2).

Table No. 2: The morphological type of the benign tumors of the ovary

S.No.	Histological type	No. of cases	% of benign n=355	% of total cases n=472
1	Serous cystadenoma	151	42.55%	32.07%
2	Benign cystic teratoma	125	35.21%	26.48%
3	Mucinous cystadenoma	67	18.87%	14.19%
4	Fibroma	6	1.69%	1.27%
5	Benign Brenner tumor	4	1.12%	0.84%
6	Fibrothecoma	2	0.56%	0.42%
7	Total	355	100%	

Table No.3 shows frequency of occurrence of various sub-types of histological groups of Benign Ovarian tumors found in the study. Amongst all types,Benign Surface epithelial tumors formed the largest group (62.53%) followed by Benign Germ cell tumor (35.21%) which was followed by Benign Sex-cord stromal tumors which accounted for (2.25%) of the total.

Table No.3 The frequency of occurrence of various sub-types of histological groups of Benign Ovarian Tumors found in the study

S.No		Histopathological type	No. of cases	% of cases(n = 472)
1		Surface epithelial tumors	222	47.1%
	a	serous cystadenoma	151	32.07%
	d	Mucinous cystadenoma	67	14.19%
	g	benign Brenner tumor	4	0.84%
2		Germ cell tumor	125	26.48%
	a	Benign cystic teratoma	125	26.48%
3		Sex-cord stromal tumors	8	1.69%

	a	Fibroma	6	1.27%
	b	Fibrothecoma	2	0.42%

Discussion

Comparison of Incidence of Benign, Borderline and Malignant tumors

In present study 75.21% cases, were benign in nature,1.49% cases were borderline and 23.3% cases were malignant. The observations for benign tumor were similar to the observations of Pilli et al 2002(75.2%)[8] and Bodal et al 2014(75%)[9]. This shows that benign ovarian tumours are far more common than their malignant counterparts.

Table 11. The comparison of Incidence of Benign tumors with other studies

	Benign %
Pilli et al (2002)8	75.2%
Gupta et al (2007)10	72.9%
Jha and Karki (2008)11	83.9%
Swamy et al (2010)12	71.6%
Nalini (2011)13	83.97%
Pradhan et al (2012)14	79.5%
Jindal (2014)15	81.13%
Bodal et al (2014)9	75%
Malli et al (2014)16	73%
Present study (2015)	75.21%

Comparison of Incidence of subtypes of Benign Ovarian Tumors

In present study Benign surface epithelial tumor were 47.1% out of all ovarian neoplasm in which serous cystadenoma comprised maximum number of cases 32.07%. These observations were close to the observations of Pilli et al 2002(31.2%)8 and Budihal 2008 (37.83%)17. In present study benign germ cell tumors were 26.48% (Benign cystic teratoma) of all ovarian neoplasms , which was in consonance with the observations of Gupta et al 1982 (23.13%)10 and Keerthi 2011(27%)18. In present study benign sex-cord stromal tumor were 1.69 % which were in agreement with the observations of Nalini et al (2011) 13(1.4%),Gupta et al 1982 (2.35%)10 and Pilli et al 2002 (2.48%) 8.

Conclusion

Benign ovarian tumours are far more common than their malignant counterparts in our environment. serous cystadenoma is the most common Surface epithelial tumor as well as the most frequently encountered benign ovarian tumour in our locale.

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Conflict Of Interest
None declared.

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