

PATTERN OF OVARIAN TUMORS: REPORT OF 15 YEARS EXPERIENCE AT LIAQUAT UNIVERSITY JAMSHORO

Naseer A. Shaikh, Fazila Hashmi and Rukhsana Parveen Samoo

ABSTRACT

OBJECTIVE: To evaluate the morphological pattern of different ovarian tumors among the rural population of Sindh.

Setting: Department of Pathology, Liaquat University of Medical and Health Sciences, Jamshoro, Sindh - Pakistan over a period of fifteen years.

DESIGN: A descriptive study.

MATERIAL AND METHODS: All specimens, received by the department were examined, however, only those specimens that belonged to interior of Sindh were included in the study. Data were recorded on a proforma and were analyzed statistically.

RESULTS: In total, 694 ovarian tumor specimens were examined. Majority of these tumors was benign (68.28%). Tumors of low malignant potential (borderline) were <01%. Those with frank malignant features were 31%. On cytological basis, tumors taking origin from surface epithelium were most frequent, constituting 81% of the total. Germ cell tumors were second in the row with percentage of 10.95. Metastatic deposits were seen in only 1.58% of the cases.

CONCLUSION: Ovarian tumors are quite common in this set up. A relatively high number of malignancies was observed in this study and the etiology of which is yet to be established.

KEY WORDS: Ovary. Tumors. Malignancy.

INTRODUCTION

Ovarian tumors affect a significant number of female populations. They are not always malignant. But the feeling of harboring a tumor is, fearsome. Among all types of ovarian tumors registered, the incidence of malignancy is about 15-20% in different parts of world.¹ These tumors behave in a diverse way and generally escape the detection until they attain a larger size.² It is also true for their malignant counterparts, which makes the disease incurable. It ranks as the fourth most common malignancy of the females after cancer of the breast, uterus and oral cavity.³

MATERIAL AND METHODS

This study was carried out from January 1990 to December 2004 at the Department of Pathology, Liaquat University of Medical and Health Sciences, Jamshoro. All the specimens of ovarian tumor, registered for histopathological examinations were included in the study, irrespective of their clinical pattern and stage of the disease. The data were collected on a proforma and included the relevant information about the patients, the provisional diagnosis, operative findings, and the histopathological analysis. Specimens without the desired information were excluded from the study. The specimens were stained with hematoxylin and eosin and examined by a team of histopathologists. Later on, these were reviewed by the author.

RESULTS

During the course of study, a total of 694 specimens were examined. Out of those, 477 (68.73%) were benign as judged by histopathological examinations. Only 5 (<1%) were borderline. Whereas, 215 (30.96%) fulfilled the criteria for malignancy. Morphologically, tumors originating from surface epithelium ranked first. Most of them were benign i.e. 412 (59.36%), very few borderline 5 (< 1%) and 145 (20.9%) showed malignant features of different grades (**Table I**). Further subclassifying the tumors originating from surface epithelium, 353 (50.8%) were serous, 206 (29.6%) mucinous, and 3 (0.43%) were Brenner tumors. Germ cell tumors were next in descending order. They constituted 76 (11%) of the total number. Among these, majority were benign 50 (7.2%). Malignant features were seen in 26 (3.74%) of total number. Majority was teratomas i.e. 54 (7.8%), followed by 19 (2.7%) dysgerminomas, 2 (0.28%) choriocarcinomas, and 1 (0.14%) yolk sac tumor in decreasing order of frequency. Neoplastic development from sex cords and stromal elements, were 37 (5.3%) with 25 (3.6%) showing malignant features. The remaining 12 (1.7%) specimens were benign. Miscellaneous and rare tumors were also observed and included carcinosarcoma 2 (0.28%), Non Hodgkin's Lymphoma 2 (0.28%) and undifferentiated malignant tumor 4 (0.57%) cases respectively. Krukenburg's tumor (metastatic deposits) was found to affect 11 (1.58%) out of 694 specimens.

TABLE I: HISTOLOGICAL PATTERN OF TUMORS

Microscopic Type	Benign and Malignant		Benign Tumors		Malignant Tumors		Borderline Tumors	
	Number	%	Number	%	Number	%	Number	%
EPITHELIAL TUMORS	562	81.0	412	59.36	145	2.89	05	0.72
Serous Tumors	353	50.8	292	42.07	61	8.78	---	---
Mucinous Tumors	206	29.6	117	16.85	84	12.11	05	0.72
Brenner Tumors	03	0.4	03	0.43	---	---	---	---
GERM CELL TUMORS	76	10.95	50	7.2	26	3.74	---	---
Teratoma	54	7.77	50	7.2	04	0.58	---	---
Dysgerminoma	19	2.7	---	---	19	2.73	---	---
Choriocarcinoma	02	0.28	---	---	02	0.28	---	---
Yolk sac tumor	01	0.14	---	---	01	0.14	---	---
SEX CORD & STROMAL TUMORS	37	5.03	12	1.7	25	3.6	---	---
Granulosa cell Tumors	25	3.6	---	---	25	3.6	---	---
Theca cell tumors	03	0.4	03	0.41	---	---	---	---
Fibroma	09	1.29	09	1.29	---	---	---	---
OTHERS	08	1.15	---	---	08	1.15	---	---
Carcinosarcoma	02	0.27	---	---	02	0.27	---	---
Lymphoma (NHL)	02	0.27	---	---	02	0.27	---	---
Undifferentiated	04	0.57	---	---	04	0.57	---	---
METASTATIC	11	1.58	---	---	11	1.58	---	---
TOTAL	694	99.96	474	68.25	215	30.96	05	0.72

DISCUSSION

Gynaecological departments receive their major load due to ovarian diseases. Because of the anatomical location, these tumors may remain unnoticed for a long period of time. These tumors cause abdominal pain and abdominal distension in majority of the cases.⁴ Based on histological pattern, these tumors are divided into benign, borderline and malignant. This is true for all the primary morphological variants. The common variants are epithelial cell tumors, germ cell tumors, and interstitial cell tumors. The ovary is the favorite site to get metastatic deposits from other abdominal cancers.

In the present study, majority of tumors was benign (68.7%). The frequency of benign tumors was lower vis-à-vis to other studies conducted in different parts of the country.^{5,6} The frequency of malignant tumors in this study was 31%. This is higher than what has been reported by most of the authors in the country, Ahmed et al⁷ being an exception. This is twice as high as reported incidence world-wide.⁸ The borderline tumors

in this study were 05 (<1%). As for as the histological variety is concerned, we observed that tumors originating from the surface epithelium were commonest among all. This observation is similar to other studies conducted in Pakistan and abroad.^{9,10} Next were germ cell tumors 76(10.95%) and their incidence correlated with other studies mentioned above. Sex cord and stromal cell tumors were 37(5.03%).

The data available from this study can help in recognizing the pattern of ovarian tumors prevalent in this part of the world. Whether the benign tumor arises de novo or the benign transforms into malignant is the subject of ongoing debate and research.¹¹ This is probably one of the reasons, we have observed an increased incidence of malignancy in our set up. But to confirm this observation further work and investigations are needed. Based on the results of this study, it is evident that, early diagnosis is crucial to help in decreasing morbidity and mortality among these patients. Therefore, we recommend that identification of known risk factors like familial predisposition, nullipar-

ity and previous history of benign ovarian diseases¹² in high-risk individuals may be beneficial.

CONCLUSION

It is concluded from this study that, on morphological grounds, tumors taking origin from surface epithelium are the common variant. Majority of them being benign, but a higher incidence of malignancy has also been observed in our set up. This is an alarming finding. It is therefore suggested that, efforts must be made to identify the risk factors.

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AUTHOR AFFILIATION:

Dr. Naseer A. Shaikh (*Corresponding Author*)
Assistant Professor, Department of Pathology
Liaquat University of Medical & Health Sciences
(LUMHS) Jamshoro, Sindh - Pakistan.

Dr. Fazila Hashmi
Resident, Department of Surgery
LUMHS Jamshoro, Sindh - Pakistan.

Dr. Rukhsana Parveen Samoo
Lecturer, Department of Pathology
LUMHS Jamshoro, Sindh - Pakistan.