

Audit of Clinicopathological Analysis of Ovarian Tumour in a Tertiary Hospital

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Abstract

Background: Ovarian tumors are a heterogeneous group of neoplasia of epithelial, stromal and germ cell origin. Each class there are different behaviors ranging from benign to highly aggressive malignant tumor. The management depends on the histological type, presentation and stage of the disease.

Aim: To ascertain the incidence, the age of distribution, the parity, the clinical presentation, and the histological types.

Materials and methods: It was a retrospective study and information was retrieved from patient's files in the department of Obstetrics and Gynecology as well as the histology forms from the histopathology department of the teaching hospital

Result: A total of 82 cases were studied out of 3,084 gynecological admissions within the study period giving an incidence of 2.7%. The germ cell tumor was noted to be the commonest gynecological tumor.

Conclusion: Clinical data and sonographic findings can help narrow our differential diagnosis. However, histology is indispensable in making the final diagnosis and thus helping to determine the appropriate treatment management of patient.

Keywords: Ovarian tumors • Clinical Presentation • Histological Types

Introduction

Ovarian cancer accounts for about 4% of all cancers in women [1] it is the 7th most common cancers among women [1]. It represents 27% of all female genital cancers. It could be non-neoplastic or neoplastic. They can present from the neonatal period to post-menopause. Most are functional in nature and resolve with minimal treatment. However, ovarian cysts can herald an underlying malignant process. When cysts are large, persistent, or painful, surgery may be required [2]. Some of the non-neoplastic lesions can be confused with neoplasm clinically, intraoperatively, or on pathological examination [3]. Differentiation between many different cystic ovarian abnormalities with non-malignant features is relevant since proper treatment depends on the histological abnormality. Ovarian carcinoma is the 5th most common cause of cancer related deaths in Western world and leading cause of death from gynecologic malignancy [4-6]. The 5-year survival is only 30–40% and is due to the fact that most ovarian cancers are in operable when first discovered. There is no reliable means for early detection except for genetic screening in high risk individuals [6]. The understanding of the molecular pathogenesis of ovarian cancer has been hindered by the lack of sufficient number of specimens at early-stage disease. As a result, identifiable precursor lesions that ultimately develop into ovarian cancer are still debatable [5].

The etiology of ovarian cancers is poorly understood. Previous epidemiological studies have focused on etiology of epithelial tumors and found advanced age, nulliparity and a family history of ovarian cancer to be consistently associated with an increased risk while number of pregnancies, oral contraceptive use [6] and history of hysterectomy or tubal ligation has been found to be associated with a decreased risk. Factors like age at menarche/menopause, age at first

childbirth, Hormone Replacement Therapy (HRT), infertility and fertility drug use, breastfeeding, obesity, diet, talc use, smoking, and alcohol or coffee consumption, are found to have no conclusive association. On the other hand, few studies have focused on etiology of non-epithelial ovarian tumors. It has been observed that an elevated risk of germ cell ovarian cancer occur among girls and young women, the mothers of whom were under 20 years of age at time of pregnancy, had used exogenous hormones during the pregnancy or had a high pre-pregnancy body mass whereas history of oral contraceptives use or oestrogen replacement therapy was associated with a decreased risk of developing sex cord-stromal ovarian tumors [7-9]. Carcinomatous processes of the ovary, both primary and metastatic, frequently are complicated by cystic degeneration. Malignant neoplasms include epithelial ovarian carcinoma (70% of all ovarian malignancies), germ-cell tumors (20%), sex-cord stromal tumors (5%), other rare types and metastases to the ovaries. Subtypes of epithelial tumors include serous, mucinous, endometrioid, clear cell, and Brenner tumors. Germ cell tumors include mature teratoma, dysgerminoma, endodermal sinus tumor (yolk sac tumor), malignant teratoma, embryonal carcinoma, and choriocarcinoma. Sex cord stromal tumors include tumors arising from the sex cords, granulosa cells, Sertoli cells, and the specialized stroma of the genital ridge, theca, and Leydig cells [10].

The objectives of this study were to determine the incidence the nature of various ovarian lesions and to ascertain the age, distribution frequency and distribution of the various non-neoplastic and neoplastic lesions.

Materials and Methods

It was a retrospective study and information which includes bio demographic distribution of ovarian tumors, presenting clinic-pathological features as well as the histopathological pattern of ovarian tumors was retrieved from patients files in the department of Obstetrics and Gynecology, the theatre records, the histology forms from the Histopathology department of the Teaching Hospital. The case files used for this study were retrieved from the records department of the University of Abuja Teaching Hospital.

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Results

A total of 82 patients out of 3,084 gynecological admission was managed within the study period as a case of ovarian tumor giving an incidence of 2.7%. The highest number of ovarian tumors was within the age of 21-30 years (40.2%). The lowest number of ovarian tumors was noted in the age group 1-10 years (1.2%) as shown in table 1.

Ovarian tumors were more in the nulliparous women (47.6%) and the least number of ovarian tumor was seen in the grandmultiparous women (11%). Greater number of the patient had secondary level of education (50%) as against the least that had primary level of education (4.9%). As shown in table B and C.

Abdominal pain and abdominal discomfort (53%) were the major clinical symptoms that the majority of the patient presented with. The least presenting complaint was weight loss (9.8%) some also presented with abdominal swelling in (20.7%) as shown in table D.

The functional ovarian cyst includes follicular cyst 11% and corpus luteum cyst 24%.

The benign ovarian tumor which includes the epithelial stromal tumor constitutes 8.6%. mucinous tumors constitute 8.5%, transitional tumor 2.4%, sex cord stromal tumor 6.1%, germ cell tumors constitute 24.5%, while malignant ovarian tumor constitute 8.4% of ovarian tumor in this study. As shown in table E, F, and G. (Tables 1, 2, 3).

Discussions

In these 5 years retrospective study of ovarian tumor. The mean age of ovarian

Table 1. Bio Demographic Distribution of Ovarian Tumors.

Age Range	Frequency of Ovarian Tumor	Percentage
10-Jan	1	1.2
20-Nov	9	11
21-30	33	40.21
31-40	15	18.3
41-50	15	18.3
51-60	7	8.5
61-70	2	2.4
Parity	Frequency	Percentage
0	39	47.6
4-Jan	34	41
≥5	9	11
Marital Status	Frequency	Percentage
Single	14	17.1
Married	66	80.5
Widowed	2	2.4
Educational Status	Frequency	Percentage
Primary	4	4.9
Secondary	41	50
Tertiary	37	45.1

Table 2. Presenting Clinico-Pathological Features.

Clinical Symptoms	No of Cases	Percentage
Abdominal Mass	17	20.7
Abdominal Pain/Discomfort	44	53
Both Abdominal Mass and Pain	9	11
Bleeding per Vagina	4	5
Weight Loss	8	10

Table 3. Histological Pattern of Ovarian Tumors.

Functional Ovarian Cyst	Frequency	Percentage
Follicular Cyst	9	11%
Corpus Luteum Cyst	20	24%

A . Functional Ovarian Cyst

Serous tumors	Frequency	Percentage
Benign serouscystadenoma	4	5
Serous borderline tumor	1	1.2
Malignant serous cystadenoma	2	2.4

B . Surface Epithelial Tumors

Mucinous tumors	Frequency	Percentage
Benign mucinous Cyst adenoma	5	6.1
Mucinous borderline tumour	1	1.2
Malignant endometoid tumor	1	1.2
Malignant Brenner tumour	2	2.4

C. Transitional cell tumor

Sex cord stromal tumors	Frequency	Percentage
Granulosa Tumors	1	1.2
Fibromas	4	4.9

D. Sex Cord Stromal Tumor

Germ Cell Tumors	Frequency	Percentages
Immature Teratoma	2	2.4
Mature Teratoma		
Solid	4	4.9
Cystic	14	17
Monodermal		
Eg Stromal	1	
Ovarii Carinoid		
Dysgerminoma	0	0
Yolk Sac Tumours	1	1.2
Mixed Germ Cell Tumours	0	0

E.Germ Cell Tumors

Tumours of unclear origin	Frequency	Percentages
Malignant juvenile granulose cell	1	1.2
Malignant heamangiophycoma	1	1.2

F. Metastatic cancer from non-primary ovary

Malignant Tumours	No of cases	Percentages
Serous cystadenocarcinoma	1	1.2
Papillary cystadenocarcinoma	1	1.2
Mucinous cystadenocarcinoma	0	0
Transitional cell carcinoma Brenner	0	0
Granulosa and theca cell carcinoma	2	2.4
Dysgeminoma	2	2.4
Embryona carcinoma	0	0
Endometroid sinus tumour	0	0
Malignant teratoma	0	0
Krukenberg	1	1.2
Malignant fibroma histocytoma	1	1.2
Malignant haemangioma	1	1.2

G. Malignant Ovarian Tumors

tumor was 45 years as shown in Table. This is also the same age in a study done in a tertiary institution in Lagos [11]. The largest proportion of patient was in the age range of 21-30 years as against 40-50 years in study carried out in LUTH [12]. It is in the same range in a study done in LASU [13] it also shows that ovarian tumors are relatively common in children. While this may suggest an important role for long exposure to internal and/or external environmental factors in the pathogenesis of these tumours. The low frequency of childhood cases may actually be due to under-diagnosis of such tumours at our centre. The commonest category of tumours we encountered were epithelial tumours which accounted for 5% of cases. Serous and benign tumours respectively formed the bulk of these tumours, the commonest epithelial tumor being serous cyst adenoma. This finding is similar to previous reports from other parts of the world. Our study also shows that benign epithelial tumours (both serous and mucinous) occurred at a relatively high percentage from his study. Serous cyst adenomas and serous cystadenocarcinomas are known to constitute the majority of benign and malignant epithelial tumours respectively while primary mucinous carcinomas on hand are uncommon and usually require careful clinic-pathological exclusion of a metastatic origin. Nevertheless, malignant epithelial tumours are generally known to be more common in older women especially between the ages of 40 and 65 years [8]. In this study ovarian tumor was noticed to be more in the nulliparous as shown in Table 1 women and this is in consistent with the incessant ovulation theory [14-16]. The most common symptoms from this study were abdominal pain /abdominal discomfort, abdominal swelling and weight loss as shown in Table 2. These are features of advanced disease and similar presentation were seen in Benin [17], Ibadan [18], Ilorin [19] and Hong Kong [20]. Mode of presentation of cases is as seen in table 2.

Table 3E shows teratomas accounting for the vast majority of cases. Indeed, teratomas were the most common single histological type of ovarian tumours accounting for 24.3% of all tumours seen. These teratomas occurred in relatively younger women and children (mean age of 27.1 years) and were not seen after the age of 48 years. These findings are similar to those from other studies all over the world. The early age of occurrence of malignant germ cell tumours calls for early intervention with prompt and effective treatment to reduce the associated morbidity and mortality [18]. Sex cord-stromal tumours represented about 6.1% of all cases from this study. Majority of these tumours (62.5%) were granulosa cell tumours and they occurred in women both within the reproductive age group as well the post-menopausal period. Adult granulosa cell tumors were, however, more common than the juvenile type. Similar observations were made women all around the world. These tumours are of interest because of their hormonal effects which are rare in other ovarian neoplasms [4]. The commonest ovarian tumor from this study is the germ cell tumor this is in contrast to epithelial surface tumor which is the commonest in studies done in Benin [13,17], Ilorin [15,19], Maiduguri [21] and kano [22,23]. In this study, we noted that benign ovarian tumours were commoner than malignant tumours.

Conclusion

Ovarian tumours are common tumour in our environment. Majority of patient with ovarian tumours presented with abdominal mass, abdominal pain and discomfort. Histology is indispensable in making the final diagnosis and thus helping to determine the appropriate treatment management of patient.

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