Original Article

Histopathological Analysis and Clinical Correlations of Ovarian Lesions in a Tertiary Hospital in Nigeria: A 10-year Review

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Abstract

Introduction: Ovarian lesions represent a significant cause of morbidity among females in most countries of the world. The prevalence of ovarian lesions in Abuja the Nigerian capital however, has not been adequately reported. We hereby present its incidence and characteristics in the tertiary hospital of a cosmopolitan capital city of Nigeria. **Setting:** The National Hospital Abuja is a 400-bed tertiary hospital serving Abuja and surrounding cities. **Material and Methods:** A retrospective analytical study of ovarian samples received in a decade in Histopathology department of the hospital with review of ward folders from Health records department. **Results:** Ovarian lesions account for 1.3% of all surgical exercised samples involving predominantly the 30 to 49 year females. The commonest encountered lesions are the non-neoplastic (58%) followed by the neoplastic with 23%. Germ cell tumours are the commonest neoplastic conditions (46%). Abnormal vaginal bleeding, abdominal pain and abdominal mass are the predominant symptom bringing patients with ovarian lesions to the hospital. **Conclusion:** Ovarian lesions are significant causes of surgical mass diseases in National Hospital Abuja.

Keywords: Clinical presentation, ovary, surgical diseases, tertiary hospital

Introduction

Ovarian lesions constitute a significant percentage of female diseases worldwide and account for a remarkable proportion of female admissions in hospitals. This paradigm is even more pronounced in resource-constrained countries where the incidence is acknowledged to be on the rise. We hereby present the cases of ovarian lesions encountered in a tertiary hospital in a resource-poor country.

Setting

The National Hospital Abuja is a 400-bed public tertiary hospital located in the metropolitan city of Abuja capital of Nigeria. The hospital clientele is derived predominantly from the heterogeneous population of the city as well as patients from nearby cities and states of the country.

Materials and Methods

This is a retrospective analytical study of all the ovarian samples received in the histopathology department of the hospital from January 1, 2004, to December 31, 2013. Data of all ovarian samples were retrieved from the departmental daily registers, slides of samples were reviewed, and further clinical information were obtained from the health records of the hospital where necessary ward folders and nurses' registers were consulted for clinical information. Data obtained were collated and analyzed with simple statistical methods using Microsoft excel 2011 edition.

Results

Within the period from January 1, 2004, to December 31, 2013, a total of 19,307 samples were received in the department of histopathology, of which 254 (1.3%) were included ovarian tissue. Nonneoplastic lesions are the predominant entities (n = 147) accounting for almost 58% of all ovarian lesions. Neoplasms account for 23% (n = 59) of all ovarian lesions composed of 15% (n = 39) benign and 8% (n = 20) malignant lesions [Table 1].

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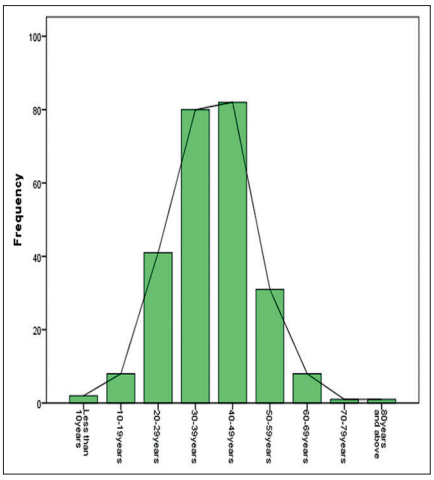

Figure 1: The distribution of ovarian lesions according to age groups

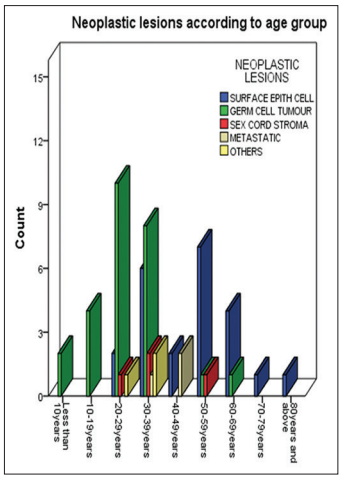

Figure 2: Age distribution versus categories of histological ovarian lesions according to the WHO classification of ovarian tumors

The ages of the patients ranged from 7 to 80 years with a mean of 39.14 years and standard deviation of 11.43. The most affected age groups were 40–49 and 30–39 years' cohorts as shown in Figure 1.

Germ cell tumors (n = 26, 44%) were the most common neoplasms encountered followed by surface epithelial cell tumors (n = 23, 39%). Mature cystic teratomas constituted the most common germ cell tumors and were found predominantly in the second and third decades of life. Other neoplasms encountered included sex cord–stromal tumors (n = 4) and metastatic tumors (n = 3). About 19% (n = 48) of the ovarian tissues were from total abdominal hysterectomy with no detectable ovarian lesion. This is depicted in Figure 2.

The most common presenting complaints were abnormal vaginal bleeding (n = 94), abdominal pain (n = 90), and abdominal mass (n = 84) together accounted for more than 60% of the clinical presentations. Other symptoms included infertility (n = 16), vaginal discharge (n = 3), and gastrointestinal tract (n = 6) symptoms. A significant proportion (n = 27) were incidental findings presenting with no symptoms or signs attributable to the ovary. This is shown in Table 2.

Functional cysts such as simple follicular (n = 54), hemorrhagic (n = 47), and corpus luteal (n = 26) were the most common nonneoplastic lesions found while mature cystic teratoma (n = 25) and serous papillary adenocarcinoma (n = 6) were the predominant benign and malignant lesions, respectively. Other histological entities encountered albeit in smaller proportions constituting 2.8% included papillary cystadenocarcinoma, endometrioid adenocarcinoma, non-Hodgkin's lymphoma, Brenner's tumor, and carcinoid tumor. This is illustrated in Table 3.

Table 1: Categories of ovarian samples encountered in 10 years

Tissue histology	Frequency (%)	Cumulative percent
Normal	48 (18.9)	18.9
Nonneoplastic	147 (57.9)	76.8
Benign	39 (15.4)	92.2
Malignant	20 (7.9)	100.0
Total	254 (100.0)	

Table 2: The most common presenting complaints of patients with ovarian lesions

Mode of Presentation	Frequency	Percentage
Abnormal vaginal bleeding	94	29.5
Abdominal/pelvic pain	90	28.2
Abdominal swelling/mass	83	26.0
Asymptomatic incidental findings	27	8.5
Infertility	16	5.0
GIT symptoms	6	1.9
Abnormal vaginal discharge	3	0.9
TOTAL	319	100

Discussion

There is a recognized dearth of information on incidence and pattern of ovarian lesions in Nigeria and several resource-poor countries.[1]

Ovarian lesions constituted a significant percentage of surgical lesions in this study as in other similar studies from Ibadan,[2] Maiduguri,[3] Enugu,[4] and other centers in Nigeria. Indeed, studies from Kano,[5,6] Sokoto,[7] Enugu,[8] Benin,[9] and Uyo[10] looking at gynecological malignancies found ovarian malignancies to be second only to cervical cancer in incidence. An earlier study from Port Harcourt[11] in Nigeria suggested ovarian cancer to be more common than even cervical cancer before the age of 40 years.

The review of histological types of ovarian neoplasms encountered in this study showed a higher proportion of germ cell tumors in the age group of below 40 years while epithelial tumors predominated above 40 years. This is at variance with studies from Maiduguri[12] where epithelial tumors are in overall preponderance. However, a histopathological analytic

Table 3: Histological types of neoplastic and nonneoplastic lesions of the ovary encountered in a decade

Lesion	Frequency
Nonneoplastic	
Simple follicular cyst	54
Hemorrhagic cyst	47
Corpus luteal cyst	26
Simple ovarian cyst	5
Polycystic ovaries	4
Endometriosis	2
Neoplastic	
Mature cystic teratoma	25
Serous papillary adenocarcinoma	6
Mucinous cystadenoma	4
Serous cystadenocarcinoma	3
Serous cystadenoma	3
Thecoma	3
Metastatic carcinoma (epithelioid)	3
Papillary adenocarcinoma	3
Papillary cystadenocarcinoma	2
Endometrioid carcinoma	2
Non-Hodgkin's lymphoma	1
Brenner tumor	1
Carcinoid	1

study from Benin city[13] in Nigeria and a similar one in Korle-Bu Hospital[14] in Ghana produced results comparable to the distribution of lesions in our study. Studies from Enugu[7] and other centers in Southern Nigeria[15] found a higher proportion of polycystic ovaries among women presenting with ovarian lesions in the infertility clinics.

Cancer of the ovary is reputed to account for more than a quarter of the female genital tract neoplasms worldwide. Furthermore, in developed countries, it is second only to cancer of the corpus uteri in incidence and shows a gradual increase in frequency.[16]

In the United States, the Surveillance, Epidemiology, and End Results studies project that more than 21,000 new cases of ovarian malignancies will be diagnosed in the year 2015.[17]

Abnormal vaginal bleeding and abdominal pain are the most common presenting complaints in our studies, followed by abdominal swelling and unspecific symptoms. This agrees with a 9-year study in India that also provided a pattern with abdominal pain and abdominal mass (in that order) as the most frequent symptoms.[18]

A study using MEDLINE search for a period of 14 years assessing the accuracy of symptoms in the diagnosis of ovarian malignancies provided the likelihood ratios of the symptoms in the following order: abdominal mass, abdominal distension (or increased girth), abdominal or pelvic pain, abdominal or pelvic bloating, loss of appetite, and family history of ovarian cancer.[19] The hierarchy in frequencies of the symptoms in our study, however, follows a different pattern. Late presentation to health-care facilities is a common feature in this study and other studies in Nigeria. This may not be unconnected with the perception and attitude of patients to ovarian lesions in this environment as compared with the communities in which the MEDLINE-reported studies were carried out. In the opinion of some workers in Ibadan,[20] this late presentation may account for the high case fatality rate observed in most series in developing countries.

Conclusions

Ovarian lesions constitute a significant proportion of gynecological morbidity in National Hospital Abuja. The most common ovarian lesions in National Hospital Abuja are the nonneoplastic diseases. Germ cell tumors are the most common neoplasms of the ovary in National Hospital Abuja followed closely by surface epithelial tumors.

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Conflicts of interest

There are no conflicts of interest.

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