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Original Article

A 10-year histopathological review of ovarian malignancies in University of Ilorin Teaching Hospital, Ilorin, North-Central Nigeria

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Abstract

Background: Ovarian malignancies constitute the second commonest among female genital malignancies worldwide.
Objective: To document the age distribution and histological variants of ovarian malignancies over the period of review
Methods: This is a retrospective review of all ovarian malignancies reported in Department of Pathology, University of Ilorin Teaching Hospital between January 2007 and December 2016
Results: Out of a total of 317 female genital malignancies reported during this period, 57 cases (17.9%) were ovarian malignancies. Their ages ranged between 10 to 84 years, with a peak age of occurrence at 41-50 years (28% of all ovarian malignancies). The commonest histological group is surface epithelial stromal malignancies (52.6%), and serous adenocarcinoma constituted 76.6% while mucinous adenocarcinoma was 16.7%. Sex-cord stromal malignancies are the second commonest group (28%) and all are granulose cell tumours. Five (8.8%) cases of malignant germ cell tumour were recorded; and malignant germ cell tumours constituted 80% of ovarian malignancies in age group 11-30 years.
Conclusion: Ovarian malignancies are also the second commonest female genital malignancies in our center. And the commonest histological group is surface epithelial stromal malignancies while the commonest in children and young adults are malignant germ cell tumours.

Keywords: Ovarian malignancies, review, Ilorin

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Introduction

Ovarian cancer is the sixth most common cancer globally and ranks 7th in cancer mortality with about 204,000 new cases and 125,000 deaths recorded every year[1]. Generally, ovarian malignancies are more common in economically advanced countries with the highest incidence rates in North America, Europe, Australia, New Zealand and temperate South America. In most Western countries, ovarian carcinoma is the fifth most common malignancy and ranks fourth in cancer mortality. Emerging evidence from various studies implicate western lifestyle; diet and particularly obesity as predisposing factors to ovarian cancer. [1,2]

According to the global cancer incidence and mortality data published by the International Agency for Research on Cancer (IARC) in 2013, ovarian cancer ranked 6th as the most common malignancy and cause of cancer deaths in women in Nigeria. [3] In Nigeria, ovarian cancer is the second most common gynaecological malignancy, second only to cervical cancers in incidence and constituting 21.1-30.5% of the cancers arising from the female genital tract. [4–7]

Majority of women with ovarian cancer present as locally advanced and/or metastatic disease due to lack of early warning signs and unavailability of screening/diagnostic tests that allow early detection. This

portends grave outcome for the patients. [2,8] This review is aimed to document the age distribution and histological variants of ovarian malignancies reported in University of Ilorin Teaching Hospital (UITH), Ilorin.

Materials and Methods

This was a retrospective study carried out at the Department of Anatomic Pathology of the University of Ilorin Teaching Hospital, Ilorin. The study centre is a tertiary health care centre serving Kwara State and neighbouring states. A review of all histologically confirmed cases of ovarian malignancies submitted between January 1st 2007 – December 31st 2016 was done. Demographic data such as name, age, hospital and laboratory numbers were extracted from the histopathology register. The classification was based on the 2014 World Health Organization Classification of Ovarian Tumours.[9] Descriptive statistics were applied to obtain rates and proportions. The results were presented in tables and bar chart.

Results

The total number of histologically diagnosed cases of ovarian malignancy (including secondary) seen over a ten-year period was 57. The ages of the patients ranged from 10-84 years. The mean age for all the cases was 47.9 (Standard Deviation=15.16).

The highest incidence of malignancy was seen in the age bracket of 31-60 years which accounted for 68% of all the cases. The peak age of occurrence was 41-50 years with 28% of all ovarian cancer cases seen in this group, followed by age group 50-61 years with 22.8% of cases and age group 31-40 with the least occurrence of 17.5% (Figure 1).

The commonest histologic variant was the surface epithelial stromal type which accounted for 52.6% of all cases (Table 1). Serous adenocarcinoma accounts for 76.6% of all surface epithelial tumours followed by mucinous adenocarcinoma which constituted 16.7% (Table 2).

Serous adenocarcinoma was the most predominant malignancy seen in the age bracket 31-60 years constituting 53.8% of all ovarian malignancy seen respectively in these age groups.

The second most common ovarian malignancy seen was the sex-cord stromal variant accounting for 28% of all cases and comprising entirely of granulosa cell tumours. They were also the second commonest malignancy seen between the age groups of 41-60 years.

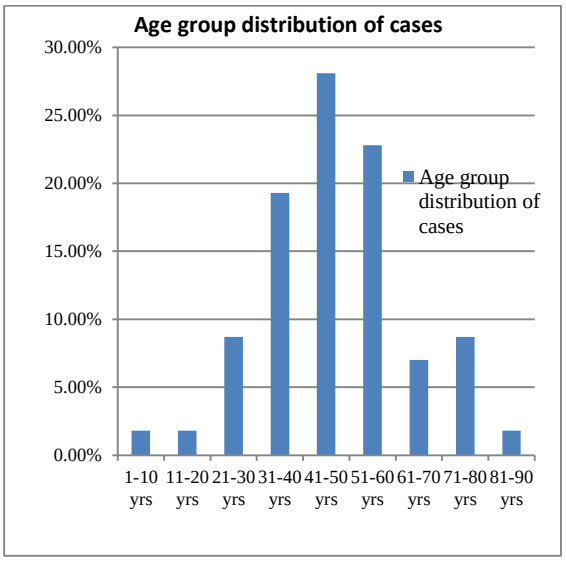

Figure 1: Age group distribution of cases

Table 1: Histologic variants of ovarian tumour cases

Histologic type	Frequency	Percentage (%)
Surface epithelial-stromal tumour	**30**	**52.6**
Sex cord-stromal tumour	**16**	**28**
Germ cell tumour	**5**	**8.8**
Miscellaneous	**3**	**5.3**
Lymphoid and haemopoietic	**1**	**1.8**
Secondary	**2**	**3.5**
Total	**57**	**100**

Only five cases of germ cell tumours were seen, accounting for 8.8% of all ovarian malignancies. Four of the cases (80%) were seen in the age group of 11-30 years (Tables 2&3).

Other tumours seen include those classified under miscellaneous (adenoid cystic variant, leiomyosarcoma, fibrosarcoma), lymphoid and haemopoietic tumour (a case of ovarian Burkitt lymphoma) and metastatic

ovarian malignancies. All these account for 10.5% of all ovarian malignancies seen.

Table 2: Histologic subtypes of the ovarian tumour cases seen

Histologic subtype	Frequency	Percentage (%)
Surface epithelial-stromal	**30**	**100**
Serous	**23**	**76.6**
Mucinous	**5**	**16.7**
Mixed Mullerian Tumour	**2**	**6.7**
Sex cord stromal tumour	**16**	**100**
Granulosa cell tumour	**16**	**100**
Germ cell tumour	**5**	**100**
Dysgerminoma	**2**	**40**
Malignant teratoma	**1**	**20**
Endodermal sinus (Yolk sac) tumour	**1**	**20**
Embryonal carcinoma	**1**	**20**
Miscellaneous	**3**	**100**
Adenoid cystic	**1**	**33.3**
Fibrosarcoma	**1**	**33.3**
Leiomyosarcoma	**1**	**33.3**
Lymphoid and	**1**	**100**
Haemopoietic	**1**	**100**
Burkitt lymphoma		
Secondary	**2**	**100**
Cervix	**1**	**50**
GIT	**1**	**50**

Discussion

A total of three hundred and seventeen (317) cases of female genital malignancies were histologically confirmed in UITH during the study period, out of which ovarian malignancies were 57 constituting 17.9%. Ovarian malignancies in UITH are second only to uterine cervical cancer as the commonest female genital malignancies. This findings are similar to reports from earlier studies done in this centre by Buhari M. O et al,[4] and Ibrahim HM et al. [6]

While ovarian malignancies can occur in all age groups, the highest incidence (68%) was seen in age group 31-60 years; with 28% in age group 41-50 years. This is similar to the study of Okunade et al who reported peak occurrence at 40-49 years.[9] The mean age recorded by Fatiregun et al in Lagos was 40.58 years,[7] Iyoke et al reported 45.4 years as the mean age of occurrence in a 10-year review of ovarian cancer cases in Enugu, South East Nigeria.[10] Yakasai et al reported mean age of 46.25 years in Kano, Northern Nigeria.[5]

The commonest histological group was surface epithelial stromal type (52.6%) of which serous adenocarcinoma constituted the majority in this group (76.6%). This is similar to reports from various part of the globe, developed and developing countries[9-11]. Also, sex-cord stromal group is the second commonest with granulosa cell tumours constituting 28% of all ovarian malignancies in our center. This is slightly different from the reports of an earlier 3-year review of gynaecological malignancies done in Kano, they reported the second commonest ovarian cancer as mucinous cystadenocarcinoma with a prevalence of 24% followed by granulosa cell tumours with 20.5%.[5]

Vast majority of malignant ovarian germ cell tumours occur in children and young adults. Five (8.8% of all ovarian malignancies) cases of malignant germ cell tumour were reported during the period under review, and almost all of them (80%) were in the age group 11-30 years; one case each of dysgerminoma, malignant teratoma, yolk sac tumour, and embryonal carcinoma. Also, of the seven cases of the ovarian malignancies in age group 11-30 years, five of them (71.4%) were malignant germ cell tumours.

Conclusion

Ovarian malignancies are the second commonest female genital malignancies in our center and the commonest histological group is surface epithelial stromal malignancies. Also the ovarian malignancies in children and young adults in our center are the malignant germ cell tumours

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