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Clinical Presentations of Ovarian Tumor: A Cross-Sectional Study in a Tertiary Care Hospital

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Abstract **Original Research Article**

Background: In gynecological practice, ovarian cystic tumors are prevalent. Pathologists may have a hard time determining the cause of certain symptoms. To better understand ovarian cystic tumor's clinical and histological characteristics, this study was conducted. ***Methods:*** Between June 2021 and July 2022, 120 women admitted in Department of Gynecology and Obstetrics, Shaheed Ziaur Rahman Medical College and Hospital, Bogura in Bangladesh were recruited purposively for a cross sectional study as per inclusion criteria. The study included all individuals who had ovarian cysts that had been detected clinically and radiologically, with histological confirmation. A variety of information was examined, including the subjects' age, clinical symptoms, parity, laterality, and histopathology. SPSS 26 was used to analyze the data. ***Results:*** The data came from 120 women who had ovarian cysts removed over the time frame of the research. Pain in the lower abdomen was the most prevalent clinical symptom. In all, there were 10 (8.5 percent) instances of malignancy, 4 (3.5 percent) cases that were intermediate grade or border line, and 104 (86.6 percent) cases that were benign in nature. There were 4% cases of ovarian metastases. The most prevalent histological diagnosis was mature cystic teratoma (27 percent). Serous cystadenoma was the second most prevalent kind of cyst (20 percent). ***Conclusion:*** The histology of ovarian lesions is quite diverse. If a tough case requires immunohistochemistry, the diagnosis may be determined on the basis of regular gross and histological examinations.

Keywords: Benign, Malignant, Ovarian cyst, Tumors.

INTRODUCTION

In terms of reproduction, the ovary is a crucial organ. The ovary is made up of totipotent sex cells and multipotent mesenchymal cells. As a consequence, practically any sort of tumor may develop when it becomes malignant [1]. Gynecological oncologists have several difficulties while dealing with ovarian tumors and non-neoplastic lesions. Non-neoplastic tumors of the ovary may sometimes produce a mass in the pelvis and be mistaken for an ovarian tumor. They need to be recognized and classified correctly so that they may get appropriate treatment [2]. Among women, ovarian cancer is the fifth most common cause of cancer-related death (age-standardized mortality rate: 4/100,000) [3]. Although most ovarian cysts are benign, they provide a diagnostic challenge to gynecologists and pathologists alike. There are two types of ovarian cysts: healthy cysts and pathogenic cysts [4]. Solid, cystic, or a combination of the two, they come in many shapes and sizes. Follicular and luteal cysts predominate among physiological cysts, benign, borderline, intermediate, or malignant pathological cysts are all possible [4, 5]. Radiographic imaging and tumor markers play an important role in the preoperative identification of ovarian cysts [6]. Age, menopause, pregnancy, and the kind of ovarian cyst determine how an individual should approach ovarian cyst treatment [7].

OBJECTIVES

General Objective

To observe the clinical and histological characteristics of ovarian tumors.

Specific Objectives

1. To assess the clinical manifestations.
2. To identify the histopathological features.

METHODS

For this study, we interviewed 120 women who were admitted to Department of Gynecology and Obstetrics, Shaheed Ziaur Rahman Medical College and Hospital, Bogura, Bangladesh between June 2021 and July 2022 for a cross-sectional study. Women who met the criteria comprised those whose ovarian cysts had been confirmed histopathologically and clinically. All of the women had oophorectomy or hysterectomy along with a bilateral or unilateral salpingectomy. For the purpose of this study, hospital records were consulted for information on the age, parity, symptoms, and cyst's laterality of the patients. Pathologists received samples that had been fixed in formalin (10 percent) and forwarded them for evaluation. The kind and nature of the tumors were determined by gross and histological examination. The ovarian specimens' tissue samples were regularly prepared and encased in paraffin. Haematoxylin and eosin were used to stain the formalin-fixed, paraffin-embedded tissue slices for light microscopy. Wherever possible, the diagnosis relied on special stains and immunohistochemistry stains. After evaluating and rechecking the data, SPSS version 26 was used to perform statistical analyses.

RESULTS

The study comprised a total of 120 women who had ovarian cysts surgically removed throughout the study period. The patients' ages varied from 20 to 80 years old, with a mean of 37.21 (SD 5.32) years. The 30-39-year-old female population was the most typically affected by ovarian cysts (Figure 1). Multiparous patients comprised 87 percent of the patients, whereas nulliparous individuals comprised the remaining 13 percent (Figure 2). In terms of symptoms, lower abdomen discomfort was the most prevalent (30%), followed by pain with a lump (25.8%) and menorrhagia (15.2%), (Table 1). The ovarian cysts' laterality was investigated. Right ovarian involvement occurred in 46.9% of patients, whereas left ovary involvement occurred in 31.3% of cases. In 21.8 percent of cases, both ovaries were implicated (Figure 3). A review of the 120 patients' histopathological data was conducted. There were 10 instances of malignancy (8.5%), 4 cases of borderline or intermediate grade (3.5%), and 104 cases of benignity (86.6%). 1.4 percent of patients had ovarian metastases (Table 2).

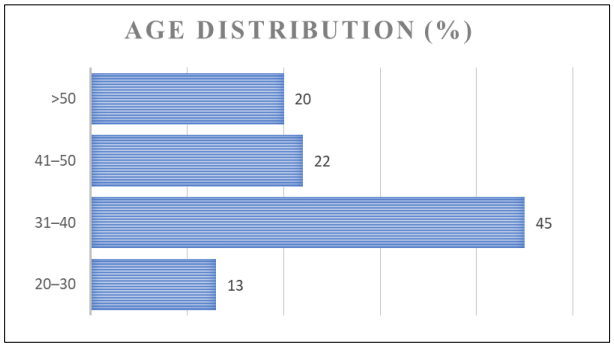

Figure 1: Age distribution of the respondents (n=120)

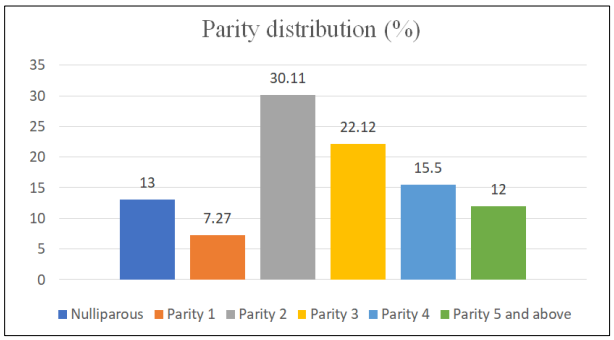

Figure 2: Parity distribution of the respondents (n=120)

Table 1: Clinical symptoms of the respondents (n=120)

Clinical symptoms	No. of cases	Percentage
Pain in lower abdomen	36	30.0%
Abdominal lump	12	10.5%
Pain in abdomen with white discharge per vagina	6	5.00%
Pain in abdomen with abdomen lump	31	25.8%
Amenorrhea	8	10.67%
Menorrhagia	13	15.2%
Polymenorrhagia	6	4.9%
Post-menopausal bleeding	12	10.0%
Retention of urine	2	1.8%

Multiple answers

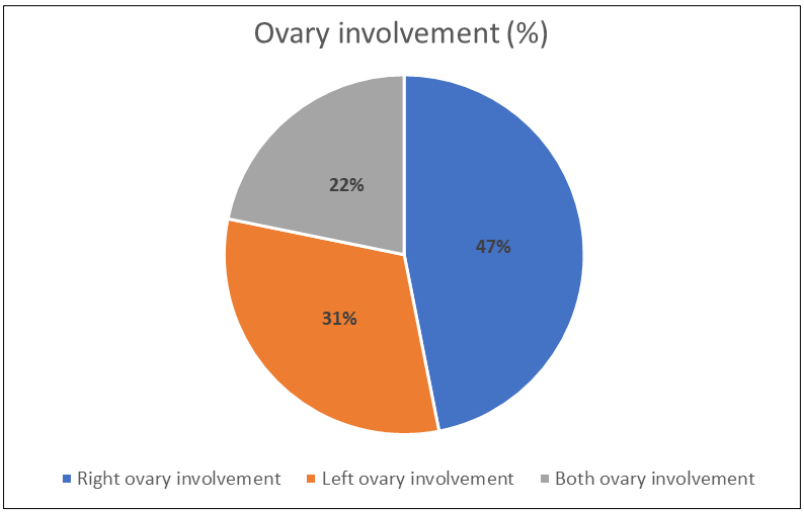

Figure 3: Ovary involvement of the respondents (n=120)

Table 2: Histopathological findings of the respondents (n=120)

Histopathological findings	No. of cases	Percentage
Mature cystic teratoma	32	27%
Serous cystadenoma	24	20%
Mucinous cystadenoma	7	6%
Serous cyst adenofibroma	1	1%
Cystic fibroma	2	2%
Sertoli Leydig cell tumor intermediate grade	1	1%
Mucinous borderline ovarian tumor	3	2.5%
Serous cystadenocarcinoma	5	4.5%
Mucinous cystadenocarcinoma	4	3%
Teratoma with malignant transformation	1	1%
Hemorrhagic corpus luteal cyst	18	14.5%
Endometriotic cyst	15	12.1%
Follicular cyst	5	4.0%
Metastasis	2	1.4%
Total	**120**	**100**

DISCUSSION

Patients in the study varied in age from 20 to 80 years old. Depending on the series, the range of ages might be rather wide or quite narrow. Pudasaini *et al.*, had a range of 6 years to 70 years, but Kaul *et al.*, had a range of 15 years to 70 years [4, 5]. The participants in the research by Abdul-Jabbar *et al.*, ranged in age from 3 months to 77 years [8]. Parity is linked to an increased risk for ovarian cancer. Nulliparous women have a far higher chance of developing cancer than multiparous women. We found a similar frequency of nulliparity (13%) to Misra *et al.*, (16%) and Madan *et al.*, (14.54%) in our research [9, 10]. Most patients had lower abdomen discomfort (30 percent), which was followed by pain with a lump (25.8%) and menorrhagia (15.2 percent). These results are similar to those of Kaul *et al.*, [5] and Van Winter *et al.*, [11] of the 120 instances, 21.8 percent of patients had bilateral ovarian involvement. According to Pudasaini *et al.*, who found 18.6% bilateral ovarian involvement, this result is comparable [4]. Another study by Abduljabbar *et al.*, found that 18.9% of women had bilateral ovarian involvement [8]. Madan *et al.*, [10] and Verma *et al.*, [12] indicated a reduced incidence of 11 % and 11.91 % in our study; we discovered a greater incidence of unilateral tumors than in prior studies. A total of 104 (86.6%) benign cases were found in this investigation, whereas only 10 (8.5%) malignant cases were found. From the adjacent nation of Nepal, Pudasaini *et al.*, found that 87.3 percent of ovarian cysts are benign and 12.7 percent are malignant [4]. 71.8% of benign and 28.12% of malignancy were found in the Kashmir valley by Kaul *et al.*, [5] four (3.5%) of the ovarian cysts in the current investigation had an intermediate or borderline grade. In the Kashmir Valley and Pondicherry, respectively, Kaul *et al.*, observed borderline cystic neoplasms with 1.9 percent prevalence [5]. The most prevalent benign tumor in this research was a mature cystic teratoma (27%) followed by a serous cystadenoma (20 percent). Despite this, serous ovarian cystadenoma is the most prevalent benign cystic neoplasm in most of the studies [4, 5]. Ovarian benign surface epithelial neoplasms, such as serous cystadenomas, are more prevalent than ovarian germ

cell neoplasms, such as mature cystic teratomas [4, 5]. The most frequent ovarian tumors in adolescence are mature cystic teratomas [13].

CONCLUSION

The majority of initial ovarian tumors are asymptomatic until they reach an advanced stage, earning the nickname "silent killer" for ovarian cancer. Despite the fact that histomorphological examination of tumors is still the gold standard approach, these findings and conclusions can provide useful baseline information about the prevalence and nature of ovarian tumors.

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