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Comparison between Clinical and Laparotomy Findings of Ovarian Tumou

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Abstract **Original Research Article**

***Background*:** Malignant ovarian tumour is the fifth most common female cancer & fifth most frequent cause of cancer death, constitute of all gynecological malignancies & 3.5% of all cancer in women. Though it is the fifth most common cause of malignancy but remains as the leading cause of death among the women with gynecological cancer & in spite of significant surgical & chemotherapeutic advancement in treatment, 5 years survival rates have not changed significantly in over 25 years & remains discouraging at 30%. ***Objective*:** To see the comparison of clinical and laparolomy findings of ovarian cancer in our women. ***Method*:** This cross-sectional study was conducted in the department of Obstetrics and Gynaecology in Bangabandhu Sheikh Mujib Medical University from July 2005 to December 2006. 50 consecutive patients who attended the outpatient department of Obstetrics and Gynaecology and who admitted in the department of Obstetrics and Gynaecology of this hospital during this period, taken as the study population. Data were collected by investigator herself. Information was collected by taking medical history and clinical examination. Proper permission was taken from the concerned departments. Their informed written consent was taken in a consent form before data collection. ***Results*:** According to this study, ovarian neoplasm is quite common in our country. These findings suggest that the female populations served by gynaecological department of BSMMU are comparable to the general population. The incidence rates and different important physical findings are correlated with those studies done at home and abroad. Incidence of hospital admission of ovarian neoplasm in this study was 5.8%. Regarding nature of the neoplasm, 86 percent were found benign and 14 percent malignant. The mean age of the patients having neoplasm 35.5 years. All epidemiological values are more or less consistent with previous studies. Regarding management, conservative surgery was done in 44 percent cases, and all of them were diagnosed finally as benign neoplasm. 28 (56%) cases were underwent radical surgery. Among them, only 7 (14%) cases were malignant and remaining 21 cases were benign, who had completed their family and most of them were at perimenopausal stage. About 70 to 80 percent of primary ovarian tumours are of epithelial origin, 10 percent of stromal origin and 5 percent of germ cell origin, while the remainder falls into the other groups. Numerous factors have been suggested to increase woman's risk of epithelial ovarian cancer but the only 2 factors of major importance are well supported to date by epidemiological studies are nulliparity including infertility & family history of ovarian cancer. The familial aggregation is attributable in part to a family of genes BRCA 1 & to a lesser extent BRCA 2 which oredisoose to both breast cancer & ovarian cancer. Increase pituitary gonadotrophin stimulation & incessant ovulation are two possible mechanism of the increased risk of ovarian cancer from nulliparity. There is substantial evidence that contraception plays an important role in the reduction of ovarian cancer especially those women who carries of either BRCA 1 or BRCA 2 mutation. ***Conclusion*:** This present clinical study was done on a very limited number of patients. So, it may not, reflect the true picture of the condition in the community. If the study could have been done over a longer period, with a larger number of patients, supported by modern aids, with long-term follow-up facilities, then the incidence, symptoms, diagnosis would have been more appropriate to reach to definitive conclusion.

Keywords: Malignant ovarian tumour, ovarian cancer, epithelial origin.

INTRODUCTION

Ovarian neoplasm is almost impossible to distinguish a benign tumour from its malignant counterpart [1]. So in most of the cases it is diagnosed when it becomes already metastasized. Of the ovarian cancer that reports for treatment, 80% belongs to stage III & IV & only 20% belongs to stage I & II. This unfavorable distribution is because of ovarian cancers, which are seldom symptomatic in the early stage. So,

early detection is possible only with high index of suspicion.

About 70 to 80 percent of primary ovarian tumours are of epithelial origin, 10 percent of stromal origin and 5 percent of germ cell origin, while the remainder falls into the other groups. Numerous factors have been suggested to increase woman's risk of epithelial ovarian cancer but the only 2 factors of major importance are well supported to date by epidemiological studies are nulliparity including infertility & family history of ovarian cancer. The familial aggregation is attributable in part to a family of genes BRCA 1 & to a lesser extent BRCA 2 which oredisoose to both breast cancer & ovarian cancer. Increase pituitary gonadotrophin stimulation & incessant ovulation are two possible mechanisms of the increased risk of ovarian cancer from nulliparity. There is substantial evidence that contraception plays an important role in the reduction of ovarian cancer especially those women who carries of either BRCA 1 or BRCA 2 mutation [2].

In our country, ovarian malignancy is quite common. Given in the growing emphasis on improving female health, the prevention, early detection & early treatment of female cancer will undoubtedly become more important at present & in future. There are no satisfactory screening tests which arc cost effective for diagnosis of ovarian neoplasm. Routine pelvic examination will not detect early ovarian cancer [3]. Mass screening with peritoneal lavage & pouch of Douglas aspiration cytology had poor acceptance & yield [4].

Till now, we are to rely on the early symptoms of ovarian neoplasm through mass media so that they can be helped & thereby increase survival rate.

This study will be undertaken to find out the incidence of ovarian neoplasm, their relation to age, parity & contraception. All the patient will be studied thoroughly with a hope to correlate ovarian neoplasm with their different presentation so that it may be helpful to some extent at least for early diagnosis & management of ovarian neoplasm.

OBJECTIVE

General Objective

1. To see the comparison of clinical and laparolomy findings of ovarian cancer in our women.
2. To compare clinical findings (preoperative/preoperative) with histopathological report.

Specific Objective

1. To establish relationship of ovarian neoplasm with age, parity, oral pill and family history.
2. To correlate different ovarian neoplasm with their different presentation.
3. To elucidate associated disease and complications.
4. To see rate and magnitude of ovarian neoplasm in tertiary level institute.

METHODOLOGY

Type of Study: It is a cross sectional study.
Place of Study: This study was conducted in the department of Obstetrics and Gynaecology in Bangabandhu Sheikh Mujib Medical University.
Period of Study: The study period started from July 2005 to December 2006.

Study Population and Sample Size

50 consecutive patients who attended the outpatient department of Obstetrics and Gynaecology and who admitted in the department of Obstetrics and Gynaecology of this hospital during this period, taken as the study population.

Variable

Independent variable - Ovarian tumour
Dependent variable - Clinical and laparotomy findings of ovarian tumour.

Inclusion Criteria

Pelvic mass which were finally diagnosed as ovarian neoplasm were included in this study.

Exclusion Criteria

Cases which were admitted as ovarian cyst with their relevant symptom but finally not diagnosed as ovarian neoplasm were excluded from the study.

Data Collection Instruments

Data were collected in a preformed proforma (Appendix) by the investigator as soon as possible after the admission of the patients and their party.

Data Collection Methods

Data were collected by investigator herself. Information was collected by taking medical history and clinical examination. Proper permission was taken from the concerned departments. Their informed written consent were taken in a consent form before data collection.

Statistical Analysis

Ail data were recorded systematically in preformed data collection form. Quantitative data were expressed as mean. Qualitative data were expressed as frequency distribution and percentage. Statistical analysis was performed by using statistical package for social science (SPSS) of windows version 12.0. Probability value < 0.05 has considered as level of significance.

RESULTS

The results of benign and malignant ovarian neoplasm in regard to age, parity, physical signs, per vaginal examination, laparotomy findings, together with their macroscopic & microscopic findings are tabulated separately. As this study was done on a very limited number of cases, number of malignant ovarian neoplasm were few, they have not been tabulated separately.

Table I: Age distribution of patients with ovarian neoplasm (n=50)

Age Group (Years)	No. of patients	Percentage
10-20	4	8.0
21-30	17	34.0
31-40	6	12.0
41-50	14	28.0
51-60	5	10.0
61-70	4	8.0

Table I shows the age distribution of the patients. Maximum patients were in the age group 21-30 years. Mean age was 35.5 yrs.

Table II: Distribution of parity of the Patients (n=50)

Parity	No. of patient	Percentage
Unmarried	4	14.0
Married		
Nulliparous	6	12.0
Parous	37	74.0

Table II shows that out of 50 cases, 7 (14%) were unmarried and 43 (86%) were married of which 6 (12%) were nulliparous and 37 (74%) were parous.

Table III: Physical signs (n=50)

Signs	No. of patients	Percentage
Anaemia		
clinically absent	5	10.0
Mild to moderate	41	82.0
severe	4	8.0
Mass in the abdomen	44	88.0
Ascites	5	10.0
Tenderness	7	12.0
Mobile mass	39	78.0
Fixed mass	13	26.0

Table III shows physical sings. Anaemia was present clinically in 45 (90%) Mass was present in the abdomen of 44 (88%) patients.

Table IV: Consistency of the mass on abdominal palpation (n=44)

Consistency	No. of patients	Percentage
Cystic	28	63.63
Firm	3	6.81
Solid	5	11.36
Partly cystic / Partly solid	8	18.18

Table IV shows consistency of mass. The mass was cystic in 28 (63.63%), firm in 3 (6.82) cases, solid in 5 (11.36%), partly solid /partly cystic in 8 (18.18%) cases.

Table V: Finding of vaginal examination (n=43)

Findings	No. of patients	Percentage
Uterus normal in size	32	69.77
Uterus bulky	6	13.64
Uterus Smaller	5	11.63
Mass is separated from the uterus	35	72.27
Mass could not be separated from the uterus	9	20.93

Table V shows findings of vaginal examination. In 34 (72,27%) cases a separate mass from the uterus was palpable and in 9 (20.93%) cases mass could not be separated from the uterus.

Table VI: Ultrasonographic findings (n=50)

Findings	No. of patients	Percentage
Ultrasonography	50	100.0
Prior to hospital admission	46	92.0
After hospital admission	4	8.0
Ultrasonographic findings con-elated with laparotomy findings	45	90

Table VI shows Ultrasonographic findings of 50 cases. In 46 (92%) cases Ultrasonography was done prior to hospital admission and in 4 (8%) cases it was done after hospital admission.

Table VII: Naked-eye findings of the tumour (n=50)

Findings	No. of patients	Percentage
Size of tumour (cm) 6-10	25	50.0
11-15	14	28.0
16-20	5	10.0
21-25	3	6.0
36-30	2	4.0
31-35	1	2.0
Consistency Cystic Firm	 36 3	 72.0 6.0
Hard	4	8.0
Partly cystic/ Partly solid Cut Section	7	14.0
Uniloculated	29	58.0
Multiloculated	14	28.0
Thin serous fluid	22	44.0
Thick viscid mucoid fluid	10	20.0
Thick sebaceous fluid	4	8.0
Partially hemorrhagic fluid	7	14.0

Table VII shows macroscopic findings of the tumors, such as size, consistency cut section and contents.

Table VIII: Laparotomy findings (n=50)

Findings	No. of patients	Percentage
Unilateral neoplasm	43	86.0
Right sided	22	44.0
Left sided	21	42.0
Bilateral neoplasm	7	14.0
Hemorrhagic peritoneal fluid	4.	8.0
Adhesions to surrounding structures	7	14.0
Cystic neoplasm	36	72.0
Solid neoplasm	7	14.0
Partly solid / partly cystic	7	14.0
Clear peritoneal fluid	5	10.0
Peritoneal seedling	3	6.0

Table VIII shows laparotomy findings. There were unilateral neoplasm in 43 (86%) cases and (14%) cases were bilateral. In 7 (14%) cases, neoplasms were solid, in 7 (14%) cases adhesions to the surrounding structures, partly cystic partly solid were 7 (14%) cases, clear peritoneal fluid in 5 (10%) cases and peritoneal seedling in 3 (6%) cases.

Table IX: Microscopic findings

Findings	No. of Cases	Percentage
Serous cystadenoma	16	32.0
Papillary Serous cystadenoma	1	2.0
Mutinous cystadenoma	11	22.0
Mature cystic teratoma	9	18.0
Ovarian fibroma	2	4.0
Serous cyst adenocarcinoma	3	6.0
Mucinous cyst adenocarcinoma	2	4.0
Dysgerminoma	3	6.0
Granulosa cell tumor	1	2.0
Poorly differentiated infiltrating adenocarcinoma	2	4.0

Table IX shows microscopic findings, 16 (32%) cases were serous cystadenoma, 11 (22%) cases were mutinous cystadenoma, 9 (18%) cases were mature cystic teratoma, 1 (2%) case was papillary serous cystadenoma, 2 (4%) cases were ovarian fibroma, 3 (6%) cases were mucinous cyst adenocarcinoma, 3 (6%) cases were dysgerminoma, 1 (2%) cases was granulosa cell tumour and 2 (4%) cases were pooly differentiated infiltrating adenocarcinoma.

Table X: Surgical intervention (n=50)

Findings	No. of Cases	Percentage
Right sided cystectomy	2	4.0
Left-sided cystectomy	1	2.0
Right sided salpingo —oophoreetomy	7	14.0
Left sided salpingo-oophorectomy	10	20.0
Total abdominal hysterectomy with bilateral salpingo – oophoretomy	20	40.0
Total abdominal hysterectomy with bilateral saipingo-oohporectomy with omentectomy	4	8.0
Total abdominal hysterectomy with left- sided salpingo- oophorectomy	2	4.0
Right- sided salpingo- oophorectomy with omentectomy	1	2.0
Left -sided salpingo oopherectomy with right -sided cystectomy	2	4.0
Palliative surgery	1	2.0

Table X shows surgical treatment of the patients. Ovarian cystectomy was done in 3 (6%) cases, salpingo- oophorectomy was done in 17 (34%) cases total, abdominal hysterectomy with bilateral salpingo-oophorectomy was done in 20 (40%) cases, total abdominal hysterectomy with bilateral salpingo oophorectomy with omentectomy was done in 4 (8%) cases, total abdominal hysterectomy with left sided salpingo- oophorectomy was done in 2 (4%) cases, right- sided salpingo -oophorectomy with omentectomy was done in 1 (2%) case, left- sided salpingo-oophorectomy with right- sided cystectomy was done in 2 (4%) cases. Palliative surgery was done in 1 (2%) case.

DISCUSSION

In this study, incidence of hospital admission of ovarian neoplasm was 5.8 percent which was compared with previous study which shows the incidence as 7.48 percent and 6.25 percent respectively. Indian report quoted a 6.1 percent incidence which is consistent to the findings of the present study.

Table 1 shows age incidence of ovarian neoplasm. In this study, age rated from 10-60 years & highest incidence was found in the age group 21-30 years (34%) with a mean age of 35.5 years. This finding when compared with previous two works done in this country, found mean age as 33.33 & 37.46 years, respectively[17,18]. The findings of this study mostly correlates with these findings, Protective effect of high parity & link between parity & ovarian cancer have been attributed to their impact on ovulatory frequency leading to the "incessant ovulation" theory of the cause of ovarian cancer [5]. A study of 550 cases of ovarian tumour by Mildred and Dockerty reported that 80 percent were married and 67.2 percent were parous. In the present series 37 (74%) cases were parous, 6 (12%) cases nulliparous & 7 (14%) cases were unmarried. This parity distribution almost correlates with previous works as 74. 29 [6] & 78.0 [7] percent were

multiparous. This study does not reflect the theory of "incessant ovulation". It may be due to small number of patients. It needs further evaluation.

Although most cases of epithelial ovarian cancer exhibited no heritable tendency approximately 7 percent occurred in women with suggestive family history [8]. In the present study, 2 (4%) case had positive family history which explains the importance of hereditary influence. As our patients were illiterate & it is not possible always to get a proper history due to illiteracy is result may not reflect the actual percentage [9].

The macroscopic size of the neoplasm ranged from 6-3 5cm. In this series 25 (50%) cases ranged from 6-10cm and in 14 (28%) cases ranged from 11-15cm, 5 (10%)) cases ranged from 16-20cm, 3 (6%) cases ranged from 21-25cm, 2 (4%) cases ranged 26-30cm, 1 (2%) cases ranged from 31~35cm. Ovarian neoplasm may be of variable size, of them niucinous cystadenoma teaching enormous proportions. Shaw (1932) reported a number of benign tumours weighing more than 200Ibs, the heaviest being a case described by Spohn of Texas which weighed 3281 bs (148 kg) [10]. Cut section showed unilocular tumour in 29 (58%) cases multiloculated in 14 (28%) cases, serous fluid in 22 (44%) cases, thick viscid mucoid fluid in 10 (20%) cases, thick sebaceous fluid 4 (8%) cases, partially haemorrhagic fluid in 7(14%) cases. The variable picture reflects various types of fluid content by various type of neoplasm Result of this study is almost consistent with previous works [3], who found unilateral cystic tumour in 28 (56%) cases, multilocular in 15 (30%) cases. Most of the cysts were unilocular [11]. This finding correlates with the reference.

About 70- 80 percent of primary ovarian tumours are of epithelial Origin. 10 percent stromal origin & 5 percent of germ-cell origin. Serous & mucinous cystadenocarcinoma are the most common types of invasive epithelial ovarian cancer. They comprise 60 percent of all primary tumours of the ovary & 9 percent of those that are malignant. The ratio of serous to mucinous cystadenocarcinoma varies between 4:1 & 10:1 in different parts of the world [12]. In the present study, it was seen after histopathogical examination that out of 50 cases, 43 (86%) cases were benign & 7 (14%)) cases were malignant. Among them, 16 (32%) cases were benign serous cystadenoma, 11 (22%) cases mucinous cystadenoma, 9(18%) cases mature cystic teratoma, 2(4%) cases ovarian fibroma, 1 (2%) case papillary serous cyst adenoma. Serous cyst adenocarcinoma comprised 3 (6%) cases, mucuious cyst adenocarcinoma 2 (4%) cases, 3 (6%) cases dysgerminoma, 1 (2%) cases granulosa cell tumour, 2 (4%) cases poorly differentiated infiltrating adenocarcinonia. Mature cystic taratorna is that most common type of ovarian neoplasm occurring during a women's reproductive life & makes up about 10-25 percent of all ovarian tumours. A retrospective study of 283 consecutive cases of mature cystic teratorna of the ovary, operated at National Taiwan University 1-hospital between 1988 & 1993 was undertaken, the incidence of mature cystic teratoma was 32.6 percent of primary ovarian, neoplasm, occurring primarily during reproductive years (Mean age 35.4 years), but may occur in postmenopausal women. In the present study, mature cystic teratoma was found in 9 (18%) cases, occurring during reproductive years. Present study is very small in comparison with the reference. So it may not reflect the actual picture. In a study of 862 cases of ovarian tumore, Farrar & Brayer found the incidence of ovarian fibroma was 3.36 percent cases. In this study, it was found in 2(4%) cases.

Traditionally, the treatment of ovarian malignancy has been aggressive, hut now-a-days conservative surgery is being increasingly practiced for stage I malignant epithelial tumours of the ovary in young and childless women. The result of conservative versus radical treatment for common epithelial carcinoma of the ovary has been compared by several authors. Munnel (1969) reported 28 patients treated by conservative surgery & 105 treated radically and the 5 years survival rate was 75 percent in both the groups [13]. Omentectomy serves two purposes- viz. staging^ evaluative and prophylactic removal of possible source of metastasis (Meigs 1940). Therefore, removal may useful (Stone *et al.*, 1963). In the present study, in 5 (10%) cases, omentectomy was done, in cases 3 (6%) here was obvious peritoneal seeding, in one case (2%), there was no obvious lesion. Out 7 (14%) malignant cases, omentectomy was done in 5 (10%) cases. In our country, is still not possible to deal like developed countries. Patients who were advised for chemotherapy for malignancy after confirmation by biopsy were sent to Oncology Department. These patients were not followed-up and not included in this study.

CONCLUSION

This present clinical study was done on a very limited number of patients. So, it may not, reflect the true picture of the condition in the community. If the study could have been done over a longer period, with a larger number of patients, supported by modern aids, with long-term follow-up facilities, then the incidence, symptoms, diagnosis would have been more appropriate to reach to definitive conclusion.

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