**Research Article**

# Clinicopathologic study of large abdominal masses in gynaecological practice and their outcome

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**ABSTRACT**

**Background:** In female reproductive tract the differential diagnosis of pelvic mass is quite variable because abnormality may arise from gynaecological or non-gynaecological origin. The aim of the present study is to find out the causes why these patients come with large abdominal masses, to find out the risk factors and to do proper management.

**Methods:** This study is a retrospective study of all cases of large abdominal mass All the patient coming with palpable abdominal and pelvic adnexal mass in the gynaecologic OPD were included in the study. Study population included women of all ages and the relevant population of women with treatment for fibroids and ovarian mass. The data was analysed retrospectively and the results were computed accordingly.

**Results:** Incidence of large ovarian mass was found out to be 2.82% and of large fibroid was 2.31%. Our study showed the peak incidence of ovarian tumors in age group more than 40 years. 90.5% of patients were illiterate and only 10 patients were literate. In the study only 8.57% patients had addiction to some drug and all were tobacco chewer. The incidence of benign tumor was 83.33% (commonest being ovarian tumours) and that of malignant tumors is 16.66%.

**Conclusions:** Ultrasound is effective in detecting the abdominal mass, size and type of abdominal mass, so that early diagnosis can be done and treatment can be given as soon as possible. Apart from already established risk factors, obesity and uterine fibroid have an important association.

**Keywords:** Abdominal mass, Gynecological mass, Ovarian tumour

## INTRODUCTION

Gynaecologists are often confronted with the dilemma of differentiating malignant tumours from benign in patients presenting with pelvic mass or presumptive diagnosis of liomyomata.[1] In female reproductive tract the differential diagnosis of pelvic mass is quite variable because abnormality may arise from gynaecological or non-gynaecological origin.[1,2] Gynaecological masses are either uterine or adnexal. Adnexal region is composed of ovary, fallopian tube, broad ligament, and associated blood and nerve supply.[3,4] While non-gynaecological sources of pelvic masses are those arising from bladder, ureter, rectum, colon, blood vessels and nerves in the pelvis.[5]

Ovarian pathology is responsible for 70% of pelvic masses found at exploratory surgery on patients with pre-operative diagnosis of pelvic mass, not attributable to leiomyomata.[6] Among the abdominal masses, uterine fibroids are the most common pelvic tumours of women. Being a major cause of abnormal uterine bleeding they are the most commonly cited reason for hysterectomy.[7-9]

The standard evaluation of adnexal masses includes history, physical examination, ultrasound evaluation and

tumours markers and final confirmation after biopsy. Other imaging techniques used are computerised tomography and magnetic resonance imaging. Final diagnosis is reached at laparoscopy or laparotomy. At the time of operation, appropriate incision would allow careful staging. The preoperative diagnosis of ovarian cancer might reduce the need for repeat laparotomies and could lead to timely referral to gynaecological oncologists.[10-15]

The aim of the present study is to find out the causes why these patients come with large abdominal masses, to find out the risk factors and to do proper management.

### Aims and objectives

- To study the incidence of palpable abdominal mass in gynaecological patients of a tertiary care hospital.
- To study the various risk factors leading to palpable abdominal mass and its associated morbidity.
- To study the overall clinical profile of patients diagnosed with palpable abdominal mass.
- To study the inpatient surgical treatment patterns for patients with palpable abdominal mass.

### METHODS

This study is a retrospective study of all cases of large abdominal mass presenting during September 2010 to September 2012. Study population includes women of all ages and the relevant population of women with treatment for fibroids and ovarian mass.

Patients admitted in gynecological ward in department of obstetrics and gynecology in a tertiary care hospital from July 2010 to September 2012 diagnosed with uterine fibroid and ovarian mass were selected for the study.

The Criteria for diagnosis either by clinical features, USG findings and hysterectomy or confirmed by histopathological examination.

All the patient coming with palpable abdominal and pelvic adnexal mass in the gynecologic OPD were included in the study irrespective of age, parity, symptomatology, marital status etc.

A detailed history of each case was recorded with reference of age, religion, parity, socioeconomic status, symptomatology, marital status, menstrual history, obstetric history, family history, and history of contraceptive methods, method adopted and history of present and past medical and surgical illness.

A thorough clinical examination including per abdominal, per speculum, per vaginal and per rectal examination was noted for each case. All the relevant routine and special investigations including MRI/CT findings CA-125 levels were noted down.

After surgery, the intraoperative findings about the origin of mass were noted from intra-op notes. Details to size, weight, numbers of tumors, type of tumor, examination of gross nature of the mass and secondary changes in tumors and histopathological report were studied. All patients suspected to have malignancy referred to cancer hospital for further management were followed up.

### RESULTS

Incidence of large ovarian mass in present study conducted at a tertiary care hospital was found out to be 2.82% and incidence of large fibroid was 2.31% & others were 0.15%. The maximum number of patients was in the age group of more than 40 years. The range of age was 15-70 years. Our study showed the peak incidence of ovarian tumours in age group more than 40 year and in between 21-25 years, also 10.91% case of malignancy were seen in patients over 40 years (Table 1).

90.5% of patients were illiterate and only 10 patients were literate. In the study only 8.57% patients had addiction to some drug and all were tobacco chewer.

In the present study the incidence of benign tumour is 83.33% (commonest being ovarian tumours) and that of malignant tumour is 16.66%. The commonest type of ovarian tumour according to WHO classification was surface epithelial tumours (50.5%). Among the surface epithelial tumours, serous cyst adenoma was the comments one (24.44%) followed by mucinous cyst adenoma (6.66%). Second most common tumour seen in our study was germ cell tumour (22.2%). Mature cystic teratoma (20%) was the commonest type of germ cell tumour.

**Table 1: Distribution of palpable abdominal mass in different age group.**

| | | 16-20 yrs | 21-25 yrs | 26-30 yrs | 31-35 yrs | 36-40 yrs | >40 yrs | Total |
|---|---|---|---|---|---|---|---|---|
| Ovarian | Benign | 3 | 8 | 1 | 3 | 7 | 15 | 55 |
| | Malignant | 0 | 3 | 3 | 4 | 0 | 6 | |
| Fibroid | - | 1 | 10 | 12 | 10 | 7 | 5 | 46 |
| Others | - | - | - | 3 | - | - | - | 3 |
| Total | | | | | | | | 104 |

Out of total cases of ovarian cyst (both benign and malignant), bilateral involvement was found in 21.81% and right side involvement was found in 52.72%. Maximum number of tumours is of size upto 10 cm (52.88%) and more than 20 cm is found in 3.84% cases. Also, 6 cases (5.76%) were associated with pregnancy. Out of 6 one case was associated with intramural fibroid and 5 cases with ovarian mass.

In the present study, as in table 3, pelvic pain was present in 75% cases. Abdominal pain with distension was present 26.92%. Abdominal lump was present 16.34%. Pressure symptoms like constipation was present in 18% and frequency of micturition in 16%.

### Table 2: Distribution of cases in relation to parity.

| Parity | Total no. of cases | Incidence |
|---|---|---|
| Nulligravida | 5 | 4.80% |
| Nullipara | 7 | 76.73% |
| Multipara | 71 | 68.26% |
| Grandmultipara | 21 | 20.19% |

### Table 3: Distribution of patients in relation to target symptoms.

| Target symptoms | Total no. of cases | % |
|---|---|---|
| Abdominal pain + distension | 28 | 26.92 |
| Abdominal Lump | 17 | 16.34 |
| Bleeding PV | 42 | 40.38 |
| Pelvic pain | 78 | 75 |
| Constipation | 18 | 17.30 |
| Burning micturition/ Frequency | 16 | 15.38 |

### Table 4: Distribution of abdominal mass according to size of tumour.

| Size | Total No. of cases | % |
|---|---|---|
| 6-10 cm | 55 | 52.88 |
| 11-20 cm | 44 | 42.30 |
| > 20 | 4 | 3.84 |
| Ruptured | 1 | 0.96 |
| Total | 104 | 99.98 |

Acute pain and vomiting were the common complaint in twisted ovarian tumours. Loss of appetite, loss of weight, constipation, difficulty in micturition was common in malignant and large abdominal mass. All patients in present series had undergone surgical treatment, of these, 22.1% patients had undergone exploratory laparotomy with cystectomy as depicted in table 6.

### Table 5: Diagnostic modality used.

| Diagnostic modality used | Total no. of cases |
|---|---|
| USG | 91 |
| CA 125 | 10 |
| CT | 5 |
| MRI | 4 |
| Ascitic fluid cytology | 5 |

### Table 6: Treatment.

| Treatment | Total no. of cases | % |
|---|---|---|
| TAH | 35 | 34.6 |
| Exp. Lap | 24 | 22.11 |
| VH | 3 | 2.88 |
| Exp. Lap fb hyst. | 5 | 54.80 |
| TAH with BSO | 12 | 11.53 |
| TAH with cyst removal with SO | 4 | 3.84 |
| Debulking surgery with removal of ovarian tumour with SO | 2 | 1.92 |
| Ovarian cystectomy with omentectomy | 2 | 1.92 |
| LAMA | 1 | 0.96 |
| Myomectomy | 4 | 3.84 |
| Myomectomy with cystectomy | 1 | 0.96 |
| LSCS with Cyst removal | 1 | 0.96 |
| LSCS with fibroid removal | 1 | 0.96 |
| Lap with hysterotomy with cyst removal | 4 | 3.84 |
| Subtotal Hysterectomy | 1 | 0.96 |

### DISCUSSION

In the present study the incidence of benign tumor is 83.33% and that of malignant tumors is 16.66%. Similar finding was seen in study done by Jha[28] were 83.9% of ovarian tumors were benign and 16.1% of ovarian tumors were malignant. However, in a study done by Ahmed,[29] the incidence of benign tumors was 59.2% and malignancy was 40.8%. According to JPMA (2009), there were 72% benign tumors and 28% were malignant.

In our study, as in table 1, the range of age was 15-70 years. This correlates well with many studies done in different part of the world. In a study done in Baltimore,[31] patients with ovarian tumors ranged from 6-98 years. In another study done by Bhattacharya[31] the youngest patient was 10 years old girl and old age was 73 years old. Our study showed the peak incidence of ovarian tumors in age group more than 40 year and in between 21-25 years which was comparable with study done by Kayasth et al, were peak incidence of ovarian tumors was between 21-40 years. Maximum number of malignancy was seen in older age group. Similar finding was seen in our study were 10.91% case of malignancy were seen in patients over 40 years. But in the study done by Kayasth,

66.7% cases of malignancy were seen in patients over 40 years.[32]

In our study, the commonest type of ovarian tumor according to WHO classification was surface epithelial tumors (50.5%) which was comparable to several studies and among the surface epithelial tumors, serous cyst adenoma was the comments one (24.44%) followed by mucinous cyst adenoma (6.66%). Second most common tumor seen in our study was germ cell tumor (22.2%). In our study, mature cystic teratoma (20%) was the commonest type of germ cell tumor. However, in a study done by Prabhakar.[33] Mature cystic teratoma was the third commonest tumor.

In our study, 90.5% of patients were illiterate and only 10 patients were literate. This huge number of illiterate patients signifies their ignorance and thus late medical checkup, diagnosis and treatment. In the study only 8.57% patients had addiction to some drug and all were tobacco chewer. Tobacco is considered to be associated with an estrogen-deficient state, through disturbed gonadotropin release or enhanced formation of inactive estrogen from estradiol, among other postulated mechanisms.[19] A negative association with some aspect of smoking or tobacco chewing history was found in most previous studies[1,8] with the exception of the Nurses' Health Study.[22]

In a case-control study in Italy,[23] a moderate association was found between the risk of uterine myomas and the consumption of beef, other red meat, and ham, whereas a high intake of green vegetables seemed to have a protective effect.

Regardless of the relative importance of dietary fat and fiber, such studies have established that modulation of the diet can influence estrogen metabolism in premenopausal women, which may in turn influence the risk for fibroids. Likewise, a 17% reduction in plasma estradiol concentration was accomplished in postmenopausal women who participated in a low-fat diet intervention program.[24]

In the Black Women's Health Study, 25 parous women had on average two births, with a median age at first birth of 22 years and a median time since last birth of 9 years. Time since most recent birth was positively related to the risk of fibroid among parous women. Women who had a birth in the past 5 years had less than half the risk of fibroid compared with women whose last birth was 5 or more years ago.

The decreased risk of fibroid in parous compared with nulliparous women is consistent with results from previous research,[1,6,7,13] although my study did not confirm the dose-response reduction in risk for parity that has been shown in some[1,7,13] but not all[6] studies. Excess body weight appears to weaken the inverse association observed for parity.

A recent NIEHS study demonstrated that a first birth occurring in the mid-reproductive years (ages 25-29 years) was most protective against fibroid.[26]

Majority of the patients had an early age of menarche i.e. 11 years in 29% and 12 years in 30%.The median age at menarche in the Black Women's Health Study participants was 12 years with range 11-13 years. Epidemiologic studies on age at menarche in relation to uterine fibroid have shown an inverse association.[5-9] The association between UL risk and early menarche, was also suggested by previous studies.[6,8,9]

Most studies of the relationship of fibroid to menorrhagia and other menstrual cycle characteristics have been based on care-seeking populations, including women undergoing myomectomy or hysterectomy[17,18] or tubal ligation,[16] with mixed results.

## CONCLUSIONS

As patients usually come from low socioeconomic status in our hospital, majority of them were illiterate. Patients usually present late when they have symptoms or have any complication. Hence proper screening of the patient is important.

Ultrasound is effective in detecting the abdominal mass, size and type of abdominal mass, so that early diagnosis can be done and treatment can be given as soon as possible.

With proper selection, the size of an ovarian cyst does not necessarily constitute a contraindication for laparoscopic surgery.

Management of these giant intra-abdominal cysts has traditionally required a full midline laparotomy. Minimally invasive surgical technique have been applied to the management of these giant cysts, but only a few cases have been reported, all reported technique include decompression of the cyst to allow for room to work, facilitate manipulation of the cyst and ovary, prevent in advertent perforation and spillage.

When there is sufficient concern for malignancy on the basic of medical history, physical examination, CA125 level and imaging, prompt surgical evaluation is warranted.

There is no definite way to prevent the growth of ovarian cysts, regular pelvic examination are a way to help ensure that changes in the ovaries are diagnosed as earliest possible.

After studying various risk factors it was found that apart from already established risk factors, obesity and uterine fibroid have an important association. Obesity is since now endemic in our country so obesity control can help in curbing down the incidence.

Recent advances in the development of minimally-invasive fibroid treatments may improve fibroid management by positively impacting patient care and reducing costs. The knowledge gained in this field will be poised to pursue further researches that are needed to understand and develop prevention strategies, develop new treatment options, and optimize the effectiveness and safety of clinical care.

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