

Evaluation of predictive symptoms of ovarian tumours in perimenopausal and postmenopausal women

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Abstract

Objective: To identify and evaluate the Predictive symptoms of ovarian tumours so that diagnosis can be made at early stage.

Methods: This study was conducted on 100 patients admitted in Department of Obstetrics and Gynaecology in Zenana Hospital who were diagnosed with ovarian tumour clinically, ultrasonographically and histopathologically. A detailed history was taken and patients surveyed about their age, menopausal status and type of ovarian tumour by histopathological report.

Results: In our study abdominal bloating was present in 74% of cases, abdominal pain present in 45% of cases; abdominal lump/swelling present in 66% of cases; bleeding per vaginum present in 8% of cases; fatigue present in 58% of cases; altered bowel habits present in 14% cases; urinary complaints present in 15% cases and others (backache) present in 8% of cases. Duration of symptoms before seeking medical attention 40% had symptoms for 3-6 months; 28% 1-3 months; 16% < 1 month; 15% 6-12 months and 1 case > 1 year. On final diagnosis with histopathological report 69 were malignant ovarian tumours, 29 were benign ovarian tumours and 2 were borderline tumours. Frequency of symptoms per month was more in malignant group.

Conclusion: Ovarian cancer is not a silent killer. As no screening test exists for ovarian cancer so the frequency and number of such symptoms are key factors in diagnosis of ovarian cancer even at early stage to decrease morbidity and mortality associated with ovarian tumours.

Keywords: Ovarian cancer, symptoms, diagnosis.

1. Introduction

Ovarian cancer is the leading cause of death among all gynaecological cancers [1]. Ovarian cancer accounts for 4% of all cancers in women, with over 2,25,000 new diagnoses each year worldwide. It is seventh most common cancer in women worldwide [2].

Most important prognostic factors are the stage at diagnosis. In FIGO Stage I or II survival is 80-90% compared with 25% in late cancers (FIGO III and IV). It has the worst prognosis of all gynaecological cancers with an overall five year survival of about 35% [3].

The presenting symptoms of ovarian cancers are not specific and often women accept those as normal changes associated with ageing, menopause and previous pregnancies [4] so ovarian cancer is often referred to as 'silent killer'.

Most of these patients are diagnosed at advanced stage, because of nonspecific signs and symptoms, which result in poor prognosis [5]. Several retrospective studies have indicated that the majority of patients do have symptoms, although not necessarily gynaecologic in nature [6,7].

There was no significant difference in the type of symptoms based on early or late stage of disease. It was shown that 80% to 90% of women with early stage disease report symptoms for several months prior to diagnosis [8,9].

There is an increasing emphasis on the need to develop effective strategies for earlier diagnosis because stage at diagnosis and survival of patients are interrelated. So we have to evaluate predictive symptoms of ovarian cancer which are nonspecific in nature to improve prognosis of patients with ovarian tumour.

2. Material and Methods

This prospective study was conducted on 100 patients admitted to Zenana Hospital Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur, Rajasthan, India, who were diagnosed as ovarian tumour clinically, ultrasonographically and finally histopathologically in perimenopausal and postmenopausal age group.

A detailed history age, parity, education, past medical history, family history was taken, their general

examination, systemic examination, bimanual pelvic examination, PVR examination done.

Routine blood investigations, serum tumour markers as required, ultrasonography and finally histopathological reporting got done.

A detailed history about their symptoms, duration of each symptom and frequency of symptom as number of episodes per month were asked. Symptoms typically associated with ovarian cancer - included pain, eating difficulties, abdominal symptoms, bowel symptoms, menses, sexual intercourse and constitutional symptoms were asked.

3. Results

In our study maximum number of patients i.e. 45% in 45-50 years of age group. Mean age was 52.01 yrs. As table 2 shows mean age of perimenopausal age group was 43.52 years. Mean age of postmenopausal age group is 56.48 yrs. Eighty-six percent of women had been pregnant and eighty two percent had delivered children, among them thirty four percent patients had parity 1. Regarding education thirty nine percent were illiterate, 5th standard passed were 43%, 8th standard 20%, graduate were 2%.

Regarding medical history 3% had breast cancer, 1% endometrial cancer, 4% had hypertension, 1% diabetes, 10% thyroid disease, 2% had history of irritable bowel syndrome.

Table 3 shows out of 69 malignant tumour cases 22% were in perimenopausal group and 47% were in postmenopausal group.

Among 29 benign ovarian tumours, 17% were in perimenopausal group and 12% were in postmenopausal group.

The most common symptoms were bloating (74%), abdominal lump / swelling (66%), fatigue (58%), pain (abdomen and pelvic) 45%. In this study pain (abdominal and pelvic), bloating, abdominal lump / swelling, fatigue, altered bowel habits, urinary complaints were related mainly to malignant ovarian tumour group. Bleeding per vagina was 100% in malignant group. In benign ovarian tumour group bloating was present in 28% of cases which was less than malignant group. (Table 4)

According to duration of symptoms as Table 5 shows that 40% of women had 3-6 months duration prior to the diagnosis, 27% had symptoms of 1-3 months, 18% had < 1 month, 14% had 6-12 months. In general median duration was found 3-6 months for ovarian masses, for IBS and others 12 months to 2 years. In malignant group 30% patient had duration of 3-6 months. Maximum number of patient had duration between 1 to 6 months.

We compared symptoms of ovarian cancer in early stage (FIGO I and II) with advanced stage (FIGO III and IV) in Table 6. Abdominal lump/swelling, fatigue, abdominal pain and urinary complaints were more in late stage ovarian cancer. Altered bowl habit was found more in early stage ovarian cancer.

Table 7 shows that median numbers of episodes of symptoms were more in malignant ovarian tumour group, for example, abdominal bloating, abdominal swelling, fatigue and altered bowl habits were experienced by women more than 10 episodes per month. Frequency of symptoms per month was less in benign group.

Table 1: Distribution of cases according to Age

Age (in years)	Total No. of cases
40-50	45
60-60	30
60-70	16
> 70	9

Table 2: Distribution of cases according to Age and menopausal status

Age (in yrs.)	Perimenopausal	Postmenopausal
40-50	37	8
50-60	3	27
60-70	-	16
> 70	-	9

Table 3: Distribution of cases according to menopausal status and nature of ovarian tumour

Menopausal status	Benign ovarian tumour	Malignant Ovarian tumour	Borderline tumour
Perimenopausal	17	22	1
Postmenopausal	12	47	1

Table 4: Distribution of cases according to symptoms and nature of ovarian tumours

S. No.	Type of symptoms	Total No. of women	Nature of ovarian tumours		
			Benign	Malignant	Border
1.	Pain (Abdomen & Pelvic)	45	7	37	1
2.	Bloating	74	28	44	2
3.	Abd. lump/ swelling	66	11	55	-
4.	Bleeding per vaginum	8	-	8	-
5.	Fatigue	58	12	45	-
6.	Altered bowl habit	14	3	10	1
7.	Urinary complaints	15	3	11	1
8.	Others	8	-	8	1

Table 5: Distribution of cases according to time interval between onsets of symptoms to seeking the medical advice

Time Interval (in month)	Benign masses	Malignant masses	Borderline	Total
< 1 month	4	12	-	16
1-3 month	6	21	1	27
3-6 month	10	30	-	40
6-12 month	8	6	1	14
> 1 yr.	1	-	-	1

Table 6: Comparison of symptoms in women with early compared with late stage ovarian cancer

Symptoms	Early stage ovarian cancer I/II	Late stage ovarian cancer III/IV
Abdominal bloating	22	52
Abdominal pain	16	29
Abdominal lump/swelling	15	51
Bleeding per vagina	3	5
Fatigue	9	49
Altered bowl habit	12	2
Urinary complaints	3	12
Others backache	2	6

Table 7: Median number of episodes of symptoms per month

Symptoms	Benign tumour	Malignant tumour	Borderline tumour
Abdominal bloating	3	14	-
Abdominal pain	2	6	-
Abdominal lump/swelling	4	15	-
Bleeding per vagina	-	2	-
Fatigue	7	16	-
Altered bowl habit	4	10	1
Urinary complaints	1	4	-

4. Discussion

Screening for ovarian cancer is not recommended for the general population. Targeting women with specific symptoms for screening has been evaluated only recently, because it was believed that symptoms have limited specificity; so specific symptoms in conjunction with their frequency and duration were useful in identifying women with ovarian cancer. A symptom index may be useful for identifying women who are at risk [10].

The American College of Obstetricians and Gynaecologists recommends against population-based screening for ovarian cancer [9]. The United States Preventive Services Task Force has assigned routine screening for ovarian cancer a grade of D, because that group

concluded there was fair evidence to recommend its exclusion from a periodic health examination [10].

No studies suggest that any screening test for ovarian cancer can improve morbidity and mortality [11,12]. But a lot of studies concluded that the patients have some symptoms we can call them alarming symptoms.

Ovarian cancer is not a silent killer. All women with ovarian cancer experienced symptoms prior to diagnosis. The majority of women currently diagnosed with ovarian cancer are not initially referred to gynaecological cancer clinics [13]. An editorial in *Lancet* [14] concluded that women do have symptoms, primarily gastrointestinal and urinary for several months prior to diagnosis.

In CR Bankhead *et al* [15] study median duration of symptoms was 12 months prior to diagnosis. Vine *et al* [9] median duration of symptoms with invasive cancer was 2 to 4 months compared with 4-6 months for borderline tumours. Eltabbakh *et al* [16] concluded that median duration for invasive tumour was 3-4 months and for borderline tumours was 8 months ($P = 0.03$).

In study by Goff B *et al* [17] 36% had symptoms < 2 months, 24% 2-3 months; 8% - 7 to 12 months and 14% more than 1 year. This retrospective study was done in 2000 [17] on 1725 women with ovarian cancer from United States and Canada concluded that there were symptoms before diagnosis. 95% of women with ovarian cancer had developed symptoms an average of 3 to 6 months before seeing a physician. The most common symptoms were abdominal (77%), gastrointestinal (70%), pain (58%), constitutional (50%), urinary (34%), and pelvic (26%). Gynaecologic symptoms were least common. Patients with early stage disease complained of symptoms before diagnosis. Types of symptoms were similar in early and late stage disease. There was delay in diagnosis both at physician (wrong diagnosis) and patient (ignoring symptoms) level and this was associated with more advanced stage of disease.

In 2001, Olson *et al* [8] done a case control study from Memorial Sloan-Kettering Cancer Centre was published and concluded that patients experienced symptoms during the preceding 6 months. Most common symptoms were bloating, lack of appetite, abdominal pain, fatigue, urinary frequency, constipation. 89% with early stage disease complained of symptoms before diagnosis, there were no significant differences in the symptoms reported between those with early stage versus late-stage disease. Olson *et al* found that 89% patients had symptoms. Abdominal bloating, Back pain, Constipation, Diarrhoea were significantly more likely to be experienced continuously by women with cancer compared with controls (62% v/s 36%).

In study by Barbara A. Goff in 2004 [18] showed that 95% patient had at least 1 symptom in prior year and 72% of women had recurring symptoms with a median number of 2 symptoms. Most common were back pain (45%), fatigue (34%), bloating (27%), constipation (24%), abdominal pain (22%) and urinary symptoms (16%). Women with malignant masses typically experienced symptoms 20 to 30 times per month and had significantly more symptoms of higher severity and more recent onset than women with benign masses or controls. The combination of bloating, increased abdominal size, urinary symptoms was found in 43% of those with cancer but in only 8% of more presenting to primary care clinics.

Barbara A. Goff *et al* in 2007 [10] concluded that symptoms that were associated independently with cancer were pelvic / abdominal pain ($p < 0.001$) increased abdominal size / bloating ($p < 0.001$) and difficulty eating / feeling full. ($P = 0.010$). A symptom index was considered positive if any

of those 6 symptoms occurred > 12 times per month but were present for < 1 year. The symptom index sensitivity was 56.7% for early stage disease and 79.5% for advanced stage disease. Specificity was 90% for women age > 50 years and 86.7% for women age < 50 years.

The study by CR Bankhead *et al* [19] has shown that there may be an opportunity to effect a change in primary care if general physicians were to probe a little deeper in order to distinguish between persistent and fluctuating distension as this difference has the potential to discriminate between women with and without ovarian cancer, respectively.

Smith *et al* [20] showed that ovarian cancer patients more likely than controls to have visits for target symptoms 1-6 months prior to diagnosis.

A population-based case control study done by Hamilton BMJ in 2009 [21] showed 85% of cancer cases and 15% of controls had one of 7 symptoms. Abdominal distention, urinary frequency and abdominal pain were significantly associated with ovarian cancer, even at 6 months prior to diagnosis. Positive predictive value for abdominal distension was 2.5%. Symptom Index + CA 125 had sensitivity 89.3% and specificity 83.5%. Symptom Index + CA 125 + HE4 had sensitivity 97.3% and specificity 80.0%.

There was a relative lack of awareness among general practitioners for repetitive symptoms for ovarian tumours as well as gastrointestinal symptoms an important feature in a symptom based detection of ovarian cancer [22].

5. Conclusion

As no screening test available so recognition of these nonspecific and vague symptoms at early stage of disease may improve survival rate.

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