

A Study of Uterine Fibromyomas

ABSTRACT

This study consists of 210 cases of fibromyomas confirmed histologically, collected over a period of two years. An attempt has been made to study the symptomatology and effects of these tumors in order to see how far the findings in this series agree with accepted norms. Some important correlations and variations from reported findings in the literature have been highlighted.

Introduction

Uterine Fibromyomas (Fibroids) are the commonest of all pelvic tumours. It has been stated that 20 per cent of all women have one or more fibroids at death (1). These tumours are slow growing and often symptomless. When symptoms such as menorrhagia occur, they do so in women between the ages of 35-45 years. Uterine fibroids are supposed to be commoner in nulliparous or relatively infertile women. They have been shown to bind oestradiol in greater amounts than does the normal endometrium (2). It is often said that excessive oestrogen stimulation promotes the growth of fibroids. As such, fibroids have been associated with conditions such as follicular cysts of ovaries, endometriosis, and endometrial carcinoma (3).

Material and Methods

This study consists of 210 cases seen at St. Luke's Teaching Hospital in Malta over a period of two years. All the patients underwent surgery, and the diagnoses were confirmed histologically. An attempt has been made to study the prevalence, symptomatology and the effects of fibroids on these cases. The authors have also tried to find out how far commonly accepted features and associates of uterine fibroids correlate with this series. The degenerative changes of the tumours, within the limits of histological examination of specimens, were also studied. The retrospective studies were carried out by referring to old case records, and follow-up of operated cases.

Findings

Prevalence: Fibroids at St Luke's Hospital were found to be the most common genital tract neoplasm. In fact, from 250 cases of genital tract neoplasms picked at random and confirmed histologically, 52% were fibromyomas (Table 1). This high frequency conforms to the expected pattern in other parts of the world.

Age: The age distribution followed the expected pattern (Table 2), the commonest age group between 40 - 44 years. The categories comprising the lowest distribution were from the two extremes of ages.

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This may reflect incidental diagnosis, attempts at management without surgical intervention, or the patients being symptom-free, especially in the younger group. An arrest or slowing of activity is very likely after the menopause through at least 10 per cent continue to grow (3). This may be another reason for the low prevalence in this age group.

Parity: In this study 73.8 percent of the cases were parous, while only 26.2 percent were nulliparous (Table 3). Of the former group, 66.4 percent had less than three children, while 33.6 percent had four or more. In the nulliparous group 59.6 percent of the women were unmarried. The married nulliparous groups comprised only 11.4 percent (21 cases) of the total number of cases. In this group only three women gave a history of miscarriages, some of which were never confirmed. The incidence of nulliparity in relation to fibroids was significantly low in our series. This is similar to the study done by Kurman and Norris (4).

Haemoglobin levels: A very important aspect of this study was the haemoglobin levels of patients, which should have reflected problems of bleeding. A borderline value for anaemia was taken at a haemoglobin level of 10g/dl. conventional trends were inapparent in this study. For instance only 20.4 percent of cases were anaemic. These had a hypochromic microcytic blood picture. Fifty percent of these had haemoglobin levels less than 9g/dl. Although the majority of women had problems with menstruation such as prolonged bleeding, only a minority were really anaemic. Of this small group, an interesting feature was that 81.3 per cent were over the age of 40 years. Perhaps this reflected higher parity, or delay in coming to hospital for treatment. Although it is said that manifestations of anaemia commonly result from menorrhagia (3), this was not apparent in this series.

Situation of tumours: The situation of the tumour mass did appear to influence the presenting symptoms (Table 5). Intramural fibromyomas were commonest in the group presenting with menorrhagia. Multiple fibromyomas were common, and sometimes distributed in all layers of the same uterus. While only 9.3 per cent had submucous fibroids. As it was difficult to determine the size of some tumours in the retrospective studies, it was not possible to obtain an accurate correlation of size to symptoms or anaemia. Some tumours are said to grow to an incredible size, without producing any appreciable symptoms, unless there is compression of adjacent organs or structures (6). The potential of

these tumours to grow without producing symptoms was exemplified by one case in this series. A fibroid uterus weighing 9 kg was removed at operation. The 52 year old patient presented to the hospital complaining of abdominal swelling. A history of irregular menstruation with periods of amenorrhoea was only elicited on direct questioning.

In the prospective group, symptoms such as backache and lower abdominal pain were found to be commoner in cases who had large subserous fibroids.

Associated conditions: Associated malignant and non-malignant condition in relation to fibroids were also studied. While malignant conditions were insignificant in our series, certainly there were non-malignant associations. Of these, cystic changes in ovaries and adenomyosis were predominant. In this series all the ovarian cysts were of the simple non-malignant type, and were seen in 19.9 percent of our cases. Adenomyosis and endometriosis considered together, were found on histological examination in 20 percent of cases. Both associations were significant, and have been reported in other series. However, when two conditions with a high incidence are correlated, their co-existence may be fortuitous³.

Degenerative changes in fibroids: Degenerative changes in fibroids are a result of interference with the capsular circulation. In this series, the fibromyomas were found to have undergone degenerative changes in a little less than half of the cases (Table 6). The commonest was hyaline change which occurred in 28 per cent of cases, a frequency which is in keeping with the normal trend³. Sarcomatous change was noted in 2.3 per cent, a figure which was higher than the reported normal of 0.2 per cent (5).

Operative procedures: The majority (87.3 percent) of patients in this series underwent a total abdominal hysterectomy with or without bilateral salpingo-oophorectomy (Table 7). A vaginal hysterectomy and pelvic floor repair was performed in 6.1 percent of the cases. These latter cases had fibroids which were equivalent to less than 12 week uterine size, and required pelvic floor repairs. In a few of these, the fibromyoma was an incidental finding. In 14 patients (6.6 percent), a myomectomy was carried out. Half of these patients were 35 years of age or less and included 2.5 percent who were single. These figures reflect the general management of fibroid cases at St. Luke's Hospital, where myomectomy is attempted in the younger patient still wishing to have children. It has been shown that recurrence after myomectomy is a distinct possibility occurring in 2.3 percent of cases. This occurs because the stimulus to regrowth is maintained, or because seedlings are overlooked at the time of operations. The tendency to the formation of fibroids in the uterine tissues is a passing phase and not a continuing defect, for otherwise recurrence after myomectomy would occur more frequently than

reported. It has been suggested⁷ that myomectomy performed before the age of 30 years is more likely to be followed by a recurrence.

Discussion

Fibromyoma is the commonest tumour in the human body. The aetiology is quite unknown, though oestrogens have been incriminated. In view of their frequency, the symptomatology and effects of fibroids are well documented. This study of 210 cases highlights some important correlations and variations from reported findings in the literature.

Fibroids have been said to be the rewards of virtue, and babies the fruit of sin³. This tumour was not commoner in the nulliparous women. In fact only 26.2 percent belong to this category. The tumour did not seem to affect the abortion rate to a significant degree in either group. In the parous group however 30 percent had one or more miscarriages, but the majority of them had two or more children. This variation compares with women of Negro origin who develop myomata when young and despite having had children¹. Of the 14 patients who underwent myomectomy with an aim of preserving their reproductive function, none became pregnant. The follow-up period has however not been long enough, being only of two years in some cases. The pregnancy rate after myomectomy has been reported as 38 percent⁷.

The majority of patients presented after the age of 40 years with a variable symptomatology. The majority complained of menorrhagia. In some cases, we were unable to elicit the duration of this symptom from the case notes alone. However 62.7 percent of patients in the anaemic group presented with menorrhagia. Perhaps this reflected a delay in referral to hospital. Manifestations of anaemia have been said to commonly result from menorrhagia³. This study however indicates that the majority of patients who presented with menorrhagia had a haemoglobin level above 10g/dl. Some cases who were subjected to attempts at correction of the anaemia by haematenics and blood transfusions were found to be resistant to therapy. These cases benefitted from timely surgical intervention, which broke down a vicious cycle. In fact some of our cases which were operated on with haemoglobin levels below 10g/dl improved tremendously after surgery. Too long a delay may have brought on adverse consequences.

One expects submucous fibroids to be commoner in patients presenting with menorrhagia and anaemia. However, this series showed submucous fibroids to be just as common in the anaemic as in the non-anaemic group. In fact there appeared to be no significant correlation between the site of tumour and the haemoglobin levels in our series of cases. Unless the uterine cavity is enlarged by submucous fibroids, the heavy periods may be due to the generally increased vascularity of the uterus. In cases where heavy periods are associated with only

small fibroids, the conclusion drawn is that the condition is one of coincidental or associated dysfunctional uterine bleeding¹.

Histological study of the fibromyomas showed that hyaline change occurred in 28 percent of the cases. This change caused no added symptoms, but may have contributed to problems of clinical diagnosis. Ultrasound scans together with clinical signs, were sometimes insufficient to distinguish between fibroids and ovarian cysts. Broad ligament fibroids too, posed problems of diagnosis, but were rare in our series. From the four cases that had undergone sarcomatous change, only one had symptoms of abdominal pain in addition to menorrhagia.

Whether or not uterine leiomyomas ever undergo malignant transformation to become leiomyosarcomas is a controversial point⁸. If they do occur, such transformation is rare accounting for 0.2 percent of cases⁵. This series of cases had a higher incidence. Sarcomatous change in a fibroid may be suspected when there is evidence of rapid growth in the tumour in any age. When there is unquestionable postmenopausal growth in a fibroid, sarcomatous change is almost certain. However at least 10 per cent of myomas continue to grow after the menopause³. If the sarcomatous change is near the uterine cavity, postmenopausal bleeding may occur. The absence of sarcomatous tissue in material obtained at curettage by no means rules out this possibility⁹.

The associated incidence of endometrial carcinoma was extremely low in this series (1.4 per cent). This reflected a younger sample group which was investigated and treated for fibroids. A delay in diagnosis and treatment might have resulted in the development of this condition, and hence a greater correlation.

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TABLE 1: Frequency of genital tract neoplasms (Random Sample n § 250)

SITE OF NEOPLASM	PATHOLOGY	Number	Percentage
Body of uterus	Carcinoma	31	12.4
	Sarcoma	2	0.8
Non-malignant fibroids	Non-malignant fibroids	130	52.0
	Other non-malignant neoplasms	2	0.8
Cervix	Carcinoma	9	3.6
Ovary	Malignant neoplasms	8	3.2
	non-malignant neoplasms	65	26.0
Vulva and vagina	Malignant and non-malignant neoplasms	3	1.2
		3	1.2

TABLE 2: Age Distribution

Age (years)	Number	Percentage
20 - 29	4	1.9
30 - 39	42	20.0
40 - 49	125	59.5
50 - 59	34	16.1
over 60	5	2.5
Total	210	100.0

TABLE 3: PARITY IN RELATION TO FIBROIDS (includes 3 cases of miscarriages)

PARITY	Number	Percentage
Nulliparous (single)	34	16
Nulliparous (married)*	21	10
P 1-3	103	49
P 4-5	31	15
P 6 and above	21	10
Total	210	100

TABLE 4: SYMPTOMATOLOGY OF FIBROIDS

PRESENTING COMPLAINT	ALL CASES		NON-ANAEMIC		ANAEMIC	
	No.	%	NO.	%	No.	%
Symptomless	32	12.2	32	14.6	0	-
Post-menopausal bleeding	37	13.9	36	16.5	1	2.1
Menorrhagia	78	29.3	51	23.3	27	57.5
Irregular bleeding	42	15.8	32	14.6	10	21.2
Epimenorrhagia	6	2.2	3	1.4	3	6.4
Intermenstrual bleeding	6	2.2	6	2.7	0	-
Other symptoms	65	24.4	59	26.9	6	12.8
Total	266	100.0	219	100.0	47	100.0

TABLE 5:**Situation of Fibroids**

Site	Number	Percentage	Anaemic	Percentage	Non-anaemic	Percentage
Intramural	146	65.0	26	63.4	120	65.5
Subserous	38	16.9	5	12.2	33	18.6
Submucous	23	10.2	4	9.7	19	10.3
Others	17	7.5	6	14.6	11	6.0
Total	224	99.6	41	99.9	183	100.4

TABLE 6:**DEGENERATION IN FIBROIDS**

Pathological Change	Number	Percentage
Hyaline change	59	28.0
Necrosis	16	7.6
Calcification	11	5.2
Haemorrhage	6	3.8
Malignant change	5	2.3
Cystic degeneration	3	1.4
No change	108	51.7
Total	210	100.0

TABLE 7:**Operative Procedures**

Operation	Number	Percentage
Total Abdominal Hysterectomy + BSO	183	87.3
Vaginal Hysterectomy and repair	13	6.1
Myomectomy	14	6.6
Total	210	100.0