Original Article

Abdominal Wall Tumours in Tikur Anbessa Hospital in Addis Ababa, Ethiopia.

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Key words: Abdominal wall, soft tissue, tumours, sarcomas and excision.

Background: **Abdominal wall tumours may be benign or malignant. Review of literature reveals that no study on these tumours has been reported in Ethiopia.**
Methods: **The following review was based on clinical experience of 14 patients with anterior abdominal wall tumours treated Tikur Anbessa Hospital in Addis Ababa.**
Results: **On histology, six (43%) of the 14 patients were found to have benign tumours while the rest (57%) had soft tissue sarcomas. Among the soft tissue sarcomas, 6 were non-desmoid and 2 were desmoid type. All required full thickness excision with wide margin resection**
Conclusion: **Even though abdominal wall tumours appear to be rare, the most important goal of a surgeon in treatment of abdominal wall tumours particularly soft tissue sarcomas is to obtain local tumour control in order to prevent recurrence and transperitoneal invasion of vital organs.**

Introduction

Tumours of the abdominal wall are quite common but the majority are benign such as lipomas, fibromas and haemangiomas[1]. Primary and secondary malignancies of the abdominal wall occur almost with equal frequency. Secondary tumours of the abdominal wall may occur as a result of direct invasion from intra—abdominal lesions or by haematogenous spread, the lung, pancreas, ovary and prostate being commonly the site of primaries[1].

Soft tissue sarcomas are uncommon, accounting for 1% of adult malignancy and 15% of childhood malignancy[2]. Malignant soft tissue tumours of the abdominal wall consist of desmoid and non-desmoid soft tissue sarcomas. They tend to invade adjacent musculo-aponeurotic and bony structures, Transperitoneal organ invasion can also occur with devastating sequelae, especially after an incomplete excision.

Extirpation with full thickness of the abdominal wall is required except for small superficial lesions. A wide margin resection, including any adherent viscous, segment of adjacent ribs, and iliac or pubic crest, offers the best assurance of local control[3].

Adjuvant radiotherapy can be given when the margin of resection is unavoidably limited but an effective radiation dose can be difficult to administer due to sensitivity of underlay in intestine. Metastasis develops frequently with high-grade sarcomas and adjuvant chemotherapy may be tried in these patients but its value remains unproven[3]. So far there has not been any report from Ethiopia
describing abdominal wall tumours, and this review aims to describe a seven -year experience of the magnitude, clinical features and management outcome of abdominal wall tumours in Tikur Anbessa Hospital, Department of Surgery, AAU, Addis Ababa. This paper might be considered as a base- line review for further studies.

Patients and Methods

Tikur Anbessa Hospital is the largest, general specialized, referral and teaching hospital in the country, with surgical bed capacity of 250, staff with 4 Subspecialty surgeons, 9 General surgeons, 14 Residents, 4 senior house officers and 10 Interns at any one time.

In this retrospective review data was collected from patients' clinical records and operation theatre registers. Diagnosis was based on clinical examination, fine needle aspiration cytology and biopsy results along with reconfirmation after surgery. Operation notes and follow-up records were studied with regard to the extent of resection, macroscopic appearance, complication, recurrence rates and other supporting information.

The result obtained from this review of patients who underwent surgery for abdominal wall tumours are presented in this paper.

Results

Out of 14 patients who were operated for abdominal wall tumours, 11 (86%) were females and 3 (14%) were males with an age range between 6 to 55 years and a mean age of 27.1 years at presentation. The majority of the patients belonged to the 15-29 age group (Table 1).

Symptoms, history of trauma and preferential site of abdominal wall mass are summarized in Table 2. The duration of symptoms ranged from 15 days to 12 years with mean duration of 2 years.

The size of tumours ranged from 6 cm to 17.5 cm in diameter with a median diameter of 9 cms.

The proportions of the different histological types and gross pathological appearance of the abdominal wall masses are shown in table 4 and 5 respectively. A hard, well-circumscribed mass was the predominant feature of all benign and desmoid tumours but non-desmoid soft tissue sarcomas were characteristically soft and less circumscribed and showed areas of necrosis with ulceration and haemorrhage.

The over-all features of a pseudo tumour in one patient were that of necrotic adipose tissue encapsulated by fibrous tissue with foreign body granuloma. This patient had laparotomy twice. The mass was situated at the previous drainage site.

One woman of childbearing age had a desmoid tumour at a previous laparotomy scar site but the tumour was not extending to the peritoneum or retroperitoneal space. Characteristically it was hard and well circumscribed, infiltrating fibrous sheath, rectus abdominus and protruding to the abdominal wall. However, there was no direct invasion of adjacent structures or distant metastasis. None of the non-desmoid soft tissue sarcomas had either a history of trauma or radiotherapy.

All patients were treated with wide margin full thickness excision of the abdominal wall mass because there was no direct invasion of ribs, pubic bone, retroperitoneal spaces or distant metastasis.Table 1. Age and gender distribution of abdominal wall tumours, Tikur Anbessa Hospital, Addis Ababa, Ethiopia, January 1994 - December 2000 G.C.

Table 1. Age and gender distribution of abdominal wall tumours, Tikur Anbessa Hospital, Addis Ababa, Ethiopia, January 1994 - December 2000 G.C.

Age (years)	Male	Female	Total (%)
0-14	-	4	4 (29)
15-29	1	5	6 (43)
30-44	1	2	3 (21)
45-59	1	-	1 (7)
Total	3	11	14 (100)

Table 2. Summary of presenting symptoms and preferential location of mass, Tikur Anbessa Hospital, Addis Ababa, Ethiopia,January 1994 - December 2000 G.C.

Characteristics	Number of patients	Percentage
Painless mass	8	57
Painful mass	6	43
RUQ mass	6	43
LUQ mass	6	43
Suprapubic mass	2	14
History of trauma	4	29

Table 3. Histological types of soft tissue tumours of abdominal wall, Tikur Anbessa Hospital, Addis Ababa, Ethiopia, Jan 1994-Dec 2000 .

Histology	No of patients (%)
Benign	6 (43%)
03Lipoma	
02 Fibroma	
01 Inflammatory pseudo-tumour	
Malignant	8 (57%)
02 Desmoid (fibromatosis)	
06 Non desmoid	
04 Fibro sarcoma	
01 Rhabdomyosacroma	
01 Dermatofibrosarcoma Protuberance	
Total	14 (100%)

Table 4. Pathological (macroscopic) appearance of abdominal wall tumours, Tikur Anbessa Hospital, Addis Ababa, Ethiopia, January 1994-December 2000 G.C.

Pathology	Less circumscribed	Well circumscribed	Haemorrhage and ulceration	Recurrence
Benign	-	6 (43%)	-	-
Desmoid	-	2 (14%)	-	-
Non desmoid	6 (43%)	-	6 (43%)	2 (14%)
Total	6 (43%)	8 (57%)	6 (43%)	2 (14%)

Table 5. Postoperative hospital stay of patients with abdominal wall tumours, Tikur Anbessa Hospital, Addis Ababa, Ethiopia, January 1994-December 2000 G.C.

Days	Number of patients	Percentage
0-10	8	57
11-20	2	14.3
21-30	2	14.3
31-40	2	14.3
Total	14	100

The majority of the patients were discharged within 10 days, accounting for 75% (see table V). There was one patient who was admitted with a diagnosis of recurrent fibrosarcoma stayed 33 days post operatively and developed wound infection and wound dehiscence for which secondary closure and later skin graft was performed. Mode of treatment in this patient was wide margin resection alone. There was no mortality even though there was a postoperative morbidity rate of 4/14. Postoperative follow-up attendance of patients was poor, but all of the 14 cases were in good condition by the end of 5 months.

Discussion

Abdominal wall tumours are quite common but the majority are benign; sarcomas are among the most common primary malignancies[1]. These tumours occur in all age groups but age incidence varies between different histological types[2]. For example,

desmoid tumours occur in women in 80% of cases, usually in the 3rd to 4th decade of life and often following pregnancy and delivery. These neoplasms occur occasionally in scars of any abdominal surgical operation wound and in scars of trauma; they can occur in cases of familial polyposis colic, gardener's syndrome[4]. Desmoid tumours are referred to as aggressive fibromatosis because of their infiltrative nature and tendency to recur.
Many pathologists call them non-metastasising low-grade fibrosarcomas[5-9]. These two subsets of soft tissue sarcomas are different in histo-pathlogical characteristics and pose similar clinical problems by virtue of their invasiveness and difficulty of eradication by surgical excision[10-14]. Non-desmoid sarcomas showed no predilection for either sex or age; this is consistent with our review, and occurrence is usually at the site of therapeutic eradiation. Regarding desmoid tumours all facts mentioned fit with to our review.

A painless mass was most common presenting symptom; pain was un common in benign and desmoids tumours, but it was described by over half of the patients with soft tissue sarcomas of the abdominal wall. This fact is comparable to other similar studies[2,3,4]. In this review it was observed that there was no preferential location of these abdominal wall tumours, and this observation is also consistent with other similar review[3].
The anatomical location in previous scar areas of surgical wounds for desmoid tumours and inflammatory pseudo-tumours was also true in our review. The size of the mass reported in different studies (median diameter of 10cm) was also comparable to the mass. recorded in our patients with a median diameter of 9 cm. Local control of abdominal wall tumours was achieved in 12 (87%) patients and local recurrence developed in 2 (14%) patients who had fibrosarcomas, previously treated by wide margin resection. This local recurrence was managed by re-excision alone with out a need for radiotherapy. It has to be remembered that services of radiotherapy in Tikur Anbessa Hospital was started only recently. In a study conducted in the U.S.A., local control was achieved in 86% of the patients and local recurrence developed more frequently in non-desmoid sarcomas than in desmoid tumours[3]. The differences in the rates of local recurrence with or without radiotherapy and with either type of resections were not statistically significant, but tumours excised with limited margin and those treated by radiotherapy had more unfavourable features and thus a greater likelihood of recurrence[3].

Histological features revealed that six were benign tumours and eight were malignant tumours; non-desmoid sarcomas were more common than the desmoid type. This is similar to other papers published in the U.S.A[1,3]. Long term recurrence rates and survival rates were not calculated in our review because of the lack of patient's compliance and disappearance from follow-up, assuming that surgical excision of their mass cured the pathology and most of the patients came from far areas (country side).

In general a 5- year survival rate is said to be shorter in non-desmoid sarcomas than in desmoid tumours, in higher-grade malignancies than in the lower grade malignancies of non- desmoid sarcomas. As the stage of soft tissue sarcoma increases, a 5- year survival rate decreases from 80% for stage I to 10% for stage IV. A 5-year recurrence of 65% after local excision, and 28-30% after a wide local excision is reported in many reviews from U.S.A. and Europe[5].
In our review it appears that abdominal wall tumours are rare. This might be explained by the fact that most of abdominal wall tumours present with a slow growing painless mass. There fore patients tend to ignore their illness and do not seek medical attention as far as they do not seek medical attention as far as they do not experience interference with daily activities. Moreover some proportion of these patients is sent to minor theatre for diagnostic biopsy but disappear after complete or incomplete removal of the mass. Hence, a well-organized prospective study of the disease entity is of vital importance to determine its true incidence. Histological varieties along with grading and staging, outlining management outcomes and finally follow- up is also equally important in its prognostic value of recurrence and survival rates.

Conclusion

In conclusion the most important goal of a surgeon in treatment of abdominal wall tumours particularly soft tissue sarcomas, is to obtain local tumour control in order to prevent recurrence and transperitoneal invasion of vital organs. Hence, proper biopsy methods with reconfirmation must be used to avoid spilling of the tumour, and wide margins of resection must be planned and executed to achieve local control when in doubt as to the adequacy of the margin of resection. It is better to extend the scope of resection to include adjacent structures if necessary. This is preferable to using radiotherapy post-operatively when results of pathologic examination prompt it[3]. There is no guarantee that adjacent irradiation could prevent recurrence in this setting[15,16]. Nevertheless

radiotherapy has therapeutic effect on desmoid tumours as well as fully malignant soft tissue sarcomas[15,16].

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