Retroperitoneal Tumors a Ten Year Experience in University of Maiduguri Teaching Hospital North Eastern Nigeria

[1]S. Aliyu, [2]A. G. Ibrahim, [3]B. S. Mohammed, [4]A. B. Zarami

[1,2]DEPARTMENT OF SURGERY, HISTOPATHOLOGY UNIVERSITY OF MAIDUGURI TEACHING HOSPITAL, MAIDUGURI BORNO STATE NIGERIA
[3]STATE SPECIALIST HOSPITAL MAIDUGURI BORNO STATE NIGERIA.
[4]HISTOPATHOLOGY UNIVERSITY OF MAIDUGURI TEACHING HOSPITAL, MAIDUGURI BORNO STATE NIGERIA

***Abstract*- Background**: Retroperitoneal tumours are fairly common though may present as a diagnostic puzzle as a result of non specific clinical features. This study reviewed our ten-year experience in the university of Maiduguri Teaching hospital (UMTH) and the State Specialist Hospital. **Patients and methods**: The study reviewed all patients with retroperitoneal tumors managed at the two centres between January, 2004 and December 2013. **Results**: A total of 130 patients were analyzed, age ranged from 3 months to 79 years with a mean 38.75years, comprising 77males and 53 females with a male to female ratio of 1.45:1. The peak age group was 30 – 39 years .Complications at presentation include severe anemia in 16.15%, impaired renal function in 14.62%, and urinary tract infection in 11.54%. Histology of tumours revealed fibrosarcoma in 18.46% and lymphoma 15.39%. The post- operative complications include surgical site wound infection in 13.08%, acute renal failure in 3.85%, and deep vein thrombosis in 2.31%. Mortality was 13.08%. **Conclusion**: Retroperitoneal tumours present late and become symptomatic and palpable only when they reach significant size, they are best evaluated with good quality cross – sectional imaging and preoperative histology by core needle biopsy. Complete surgical resection is the most potential curative treatment modality for retroperitoneal sarcomas and is best performed by a multidisciplinary sarcoma team.

***Index Terms*-** Retroperitoneal Tumours, Our Experience, Management, Outcome

I. INTRODUCTION

The retroperitoneum can host a wide spectrum of pathologies including a variety of rare benign tumours and malignant neoplasm that can be either primaries or metastatic lesions. Retroperitoneal tumours can cause a diagnostic dilemma and present several therapeutic challenges because of their rarity, relative late presentation and anatomical location[1] often in close relationship with several vital structures in the retroperitoneal space[2]. The retroperitoneum is the second most common site of origion of primary malignant soft tissue tumours(sarcomas) after the deep tissues of the lower extremities therefore retroperitoneal mesenchymal lesions are far more likely to be malignant[3]. As a group retroperitoneal sarcomas have poor prognosis the reason being the great difficulty in their complete surgical removal[4]. Tumour debulking followed by radiation seems to be the treatment of choice[5]. Tumours of the sympathetic nervous system like neuroblastoma and ganglioneuroblastomas in the retroperitoneum are slow growing tumours, surgery followed by radiotherapy is useful in their management[6]. This study reviewed our ten year experience with management of retroperitoneal tumours.

II. PATIENTS AND METHODS

The study reviewed all patients with retroperitoneal tumuors managed at UMTH and State Hospital between January, 2004 and December 2013. Permission for the study was granted by the Hospital Research and Ethics Committee. Informed written consent was obtained from all patients. Clinical and laboratory information was extracted from their records and data analyzed. The diagnosis was made based on clinical features and relevant investigations which includes packed cell volume, urinalysis, blood chemistry, full blood count, and ultrasound scan. Others were intravenous urography, magnetic resonance imaging, computerized tomography, ultrasound guided core needle biopsy among others. Those presented as emergency were resuscitated with intravenous fluids, antibiotics (ceftriaxone and metronidazole), and blood transfusion where indicated. All patients had open surgery under general anesthesia. Post-operatively patients were monitored and subsequently discharged and followed up on outpatient basis.

III. RESULTS

A total of 141 patients were reviewed, 11 were discarded due to incomplete data, and 130 analyzed. Age ranged from 3 months to 79 years with a mean 38.75years, comprising 77males and 53 females with a male to female ratio of 1.45:1. The peak age group was 30 – 39(20%) years **table1**. The clinical features were pain, abdominal/flank mass in all 130(100%) of patients **table2.** Complications at presentation include anemia that necessitated blood transfusion before surgery in 21(16.15%), impaired renal function in 19(14.62%), urinary tract infection in 15(11.54%), and intestinal obstruction in 17(13.08%). Resected tumours were sent for histology which revealed fibrosarcoma in 18.46% and lymphoma 15.39% **table3**. Complete tumor resection (resection margin free of tumor) was achieved in 67(51.54%), while the

63(48.46%) had either debulking or biopsy taken due to advanced disease. The post- operative complications includes surgical site wound infection in 17(13.08%), acute renal failure in 5(3.85%), deep vein thrombosis in 3(2.31%), keloid/hypertrophic scar in 7(5.38%). There were 17 mortalities (13.08%).

IV. DISCUSSION

Previous study showed that Primary tumours of the retroperitoneum are not common entities[7] however this study found them to be fairly common in the tropics with 130 cases in ten years in contrast to their finding of 34 cases in 25 years. The mean age of 59years, and male to female ratio of 1.26:1[8], however this study found the mean age of 38.75years and male to female ratio of 1.45:1. Our findings of non specific clinical presentation were similar to previous studies. The study found the commonest retroperitoneal tumours to be fibrosarcoma, lymphoma, teratoma, and metastatic deposits in that order. While a study by Pirayesh et al found liposarcoma, leiomyosarcoma, histiocytomas and rhabdomyosarcomas in that order as the commonnest[9]. The complete tumour resection rate of 51.54% in this study is in keeping with resection rate of major cancer centres[10,11]. Patient who had complete resection of their tumours had better outcome compared to those that had residual disease, therefore completeness of tumour resection correlated with patient survival as noted by multiple previous experiences[12,13] . In our experience benign tumours, well differenciated teratomas, and lymphomas(due to good response to chemotherapy) had excellent outcome, however fibrosacoma, liposarcoma, and secondary tumours tend to have poorer outcome especially high grade, incomplete resection and with or without distant metastases. The latter category tend to have tumour progression early in the course of their follow up, 57% within a year. Reoperation for progression of primary tumour does not add to long term survival though improved quality of life in the short term. The above findings are similar to other reports[14- 16]. Our experience with chemotherapy either as adjuvant or neoadjuvant was limited to lymphomas and germ cell tumours with remarkable response, however the response of fibrosarcoma and liposarcoma to chemotherapy were dismal[17]. There is no facility for radiotherapy in our centre, those that required radiotherapy to the tumour bed or localized secondaries not amenable to excision were referred to centres with better facilities in keeping with global best practice. Several uncontrolled trials in retroperitoneal sarcoma patients have suggested survival benefits with adjuvant radiation therapy[18-19].

V. CONCLUSION

Retroperitoneal tumours present late and become symptomatic and palpable only when they reach significant size. They are best evaluated with good quality cross – sectional imaging and preoperative histology by ultrasound - guided core needle biopsy is required when imaging is non diagnostic. Complete surgical resection is the most potential curative treatment modality for retroperitoneal sarcomas and is best performed in high volume centres by a multidisciplinary sarcoma team. Local recurrence occurs in a large proportion of patients. Complete surgical resection, and tumor grade are important predictors of recurrence and disease specific survival. Further research is required to define the role of radiotherapy, chemotherapy, and develop biological therapies to target the various molecular pathways.

Table 1: Age Distribution

Age group (yrs)	No	%
<10	14	10.77
10-19	15	11.54
20-29	17	13.08
30-39	26	20.00
40-49	16	12.31
50-59	14	10.77
60-69	20	15.39
70-79	08	06.15
Total	130	100.00

Table 2: Clinical Features

Features	No	%
Abdominal/flank mass	130	100.00
Pain	130	100.00
Anaemia	085	065.38
Upper Urinary tract obstructive symptoms	067	051.54
Weight loss/ anorexia	043	033.08
Fever	039	030.00
Intestinal obstructive symptoms	032	024.62
Pedal edema	021	016.15
Haematuria	018	013.85

Table 3: Histological diagnosis

Histology	No	%
Fibrosarcoma	24	18.46
Lymphoma	20	15.39
Teratoma	16	12.31
Metastatic tumours	16	12.31
Liposarcoma	12	09.23
Neurofibroma	10	07.69

Retroperitoneal cysts	07	05.39
Neuroblastoma	06	04.61
Rhabdomyosarcoma	04	03.08
Tuberculous adenitis	04	03.08
Mucinous carcinoma	03	02.31
Neurofibrosarcoma	02	01.54
Phaeochromocytoma	02	01.54
Endothelioma	02	01.54
Carcinoid tumour	02	01.54
TOTAL	130	100.00

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AUTHORS

First Author – S. Aliyu, DEPARTMENT OF SURGERY, HISTOPATHOLOGY UNIVERSITY OF MAIDUGURI TEACHING HOSPITAL, MAIDUGURI BORNO STATE NIGERIA

Second Author – A. G. Ibrahim, DEPARTMENT OF SURGERY, HISTOPATHOLOGY UNIVERSITY OF MAIDUGURI TEACHING HOSPITAL, MAIDUGURI BORNO STATE NIGERIA

Third Author – B. S. Mohammed, STATE SPECIALIST HOSPITAL MAIDUGURI BORNO STATE NIGERIA.

Fourth Author – A. B. Zarami, HISTOPATHOLOGY UNIVERSITY OF MAIDUGURI TEACHING HOSPITAL, MAIDUGURI BORNO STATE NIGERIA

Correspondence Author – DR SULEIMAN ALIYU, DEPARTMENT OF SURGERY UNIVERSITY OF MAIDUGURI TEACHING HOSPITAL MAIDUGURI BORNO STATE NIGERIA., TEL. +2348035015309, Email. drsuleiman.aliyu@yahoo.com