A CLINICAL STUDY ON RETROPERITONEAL TUMOURS
V. Rambabu, B. Anuradha, N. Dinesh Kumar Reddy, G. Santhosh Kumar

ABSTRACT: Retroperitoneal tumours are fairly common though they may present as a diagnostic puzzle as a result of non-specific clinical features. The study reviewed all patients who are clinically diagnosed and radiologically confirmed as retroperitoneal tumours and managed. A total of 25 patients were analyzed, age ranged from 25 to 70 years, with peak age group was 30–40 years with male to female ratio of 1.27:1. The most common presentation is abdominal lump. Most of the retroperitoneal tumours are soft tissue sarcoma.

KEYWORDS: Retroperitoneal tumours, Abdominal lump, Soft tissue sarcoma.

INTRODUCTION: The retro peritoneum in the abdomen is the space between the posterior parietal peritoneum anteriorly and the transversal is fascia posteriorly. It extends from the diaphragm superiorly to continue into the extra peritoneal space in the pelvis inferiorly. The retro peritoneum is loosely divided into the anterior and posterior pararenal, perirenal and great vessel spaces. The anterior pararenal space is bordered between the posterior parietal peritoneum anteriorly, the anterior renal or gerota fascia posteriorly and laterally by the lateroconal fascia. This space includes the pancreaticoduodenal space and the pericolonic space. The posterior pararenal space lies between the posterior renal fascia and the transversalis fascia, whereas the perirenal space is located between the anterior and the posterior renal fascia. The great vessel space surrounds the aorta and the inferior vena cava (IVC) and is anterior to the vertebral bodies and psoas muscles.(1,2) Retroperitoneal neoplasms area rare but important group of neoplasms. These masses tend to be large at the time of presentation. They can be identified incidentally or may present clinically with a palpable abdominal or pelvic mass.(3,4,5) Cross-sectional imaging has revolutionised the investigation of patients with retroperitoneal neoplasms. Both CT and MRI play an integral role in the characterisation of these masses and in evaluation of their extent and involvement of adjacent structures,(5,6) and therefore in treatment planning. Whilst many authors have described useful imaging features to distinguish between the different entities,(5) histological confirmation is required for diagnosis in most tumours because of overlap of imaging features and for tumour grading.(7,4,8) Both computed tomography (CT) and magnetic resonance imaging (MRI) can contribute to tumour characterization, in determining the size of the lesion, its tissue content and relationship to adjacent organs and vessels. CT provides superior spatial resolution and detection of calcification, while MRI has superior soft tissue contrast and capabilities in the detection of fat within a lesion.(5,6) whilst there does remain significant overlap in the imaging characteristics of retroperitoneal neoplasms, some lesions have distinctive characteristics and can be diagnosed with some accuracy on imaging, e.g. aggressive angiomyxoma and liposarcoma. Retroperitoneal biopsies can be safely performed under CT or USG guidance. Cross-sectional imaging with contrast is often able to recognise solid, vascular and the most dedifferentiated...
areas within these large heterogeneous masses, thereby enabling specific targeting within the mass.

**MATERIALS AND METHODS:** This is a prospective study, reviewed all patients who are clinically diagnosed and radiologically confirmed as retroperitoneal tumours and managed at department of general surgery, between July 2013 to July 2015. We have excluded tumours of kidney, pancreas.

**RESULTS:** A total of 25 cases of retroperitoneal tumours were studied in patients aged 25 to 70 years, with most patients aged between 30-40 years (Chart 1). 14(56%) were males and 11(44%) females most common presenting symptom is abdominal lump,others pain, anaemia, weight loss, anorexia, fever. (Table 1) Out of the 25 cases, soft tissue sarcoma, comprising 12 cases (48%), of which fibrosarcoma 6 cases(24%), liposarcoma 2 cases (8%), pleomorphic sarcoma 2 cases (8%)ad leiomyosarcoma 2 cases(8%). adrenocortical carcinoma 3(12%), cystic lymphangioma 2(8%) lipoma 1(4%), adrenal cysts 1(4%), lymphoma 1(4%), neurofibroma 1(4%), ganglioneuroma 1(4%), schwanomma 1(4%). (Table 2). Surgical excision done in 21 cases. Complete resection in 16 cases (64%), incomplete excision in 5 cases (20%). 4cases are unresectable, sent for radiotherapy. Patients followed for period of 6 months. In that period we could not find any recurrences of retroperitoneal lesions.

**MOST COMMON AGE GROUP: 3rd DECADE.**

<table>
<thead>
<tr>
<th>Clinical Features</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal lump</td>
<td>25</td>
<td>100%</td>
</tr>
<tr>
<td>Pain</td>
<td>18</td>
<td>72%</td>
</tr>
<tr>
<td>Anaemia</td>
<td>16</td>
<td>64%</td>
</tr>
<tr>
<td>Weight loss&amp;Anorexia</td>
<td>16</td>
<td>64%</td>
</tr>
<tr>
<td>Fever</td>
<td>12</td>
<td>48%</td>
</tr>
</tbody>
</table>

**Table 1: Clinical features Retroperitoneal Tumours**

![Chart 1: Bar Chart showing Age Incidence of Retroperitoneal Tumour](image-url)
**Histological types of Retroperitoneal Tumours**

<table>
<thead>
<tr>
<th>Histological type</th>
<th>No. of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft tissue sarcoma</td>
<td>12 (48%)</td>
</tr>
<tr>
<td>Adrenocortical carcinoma</td>
<td>3 (12%)</td>
</tr>
<tr>
<td>Cystic lymphangioma</td>
<td>2 (8%)</td>
</tr>
<tr>
<td>Lipoma</td>
<td>2 (8%)</td>
</tr>
<tr>
<td>Adrenal cysts</td>
<td>2 (8%)</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>Neurofibroma</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>Ganglioneuroma</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>Schwanomma</td>
<td>1 (4%)</td>
</tr>
</tbody>
</table>

Table 2: Histological types of Retroperitoneal Tumours

**Management of Retroperitoneal Tumours**

<table>
<thead>
<tr>
<th>Surgery</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete resection</td>
<td>16</td>
<td>64%</td>
</tr>
<tr>
<td>Incomplete resection</td>
<td>5</td>
<td>20%</td>
</tr>
<tr>
<td>Unresectable</td>
<td>4</td>
<td>16%</td>
</tr>
</tbody>
</table>

Table 3: Management of Retroperitoneal Tumours

**Fig. 1: CECT Abdomen films showing Retroperitoneal Mass (Adrenal Tumour)**
DISCUSSION: Previous study showed that retroperitoneal tumours are not common entities however this study found them to be fairly common with 25 cases in two years in contrast to their finding of 34 cases in 25 years. The mean age of 59 years, and male to female ratio of 1.26:1, however this study found the mean age of 38.5 years and male to female ratio of 1.25:1. Abdominal lump is the most common clinical presentation.\(^{(3,4,9)}\) Our findings of non-specific clinical presentation were similar to previous studies. The study found the commonest retroperitoneal tumours to be soft tissue sarcoma, adrenocortical carcinoma, cystic lymphangioma, in that order. Among soft tissue sarcomas fibrosarcoma is common followed by liposarcoma.\(^{(10,7,6)}\) While a study by Pirayesh et al found liposarcoma, leiomyosarcoma, histiocytomas and rhabdomyosarcomas in that order as the commonest. The complete tumour resection rate of 64% in this study is in keeping with resection rate of major cancer centres.\(^{(1,11,12)}\) 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.\(^{(13)}\) In our experience benign tumours and lymphomas (Due to good response to chemotherapy) had excellent outcome, however fibrosacoma, liposarcoma, and adrenocortical carcinoma tend to have poorer outcome especially high grade, incomplete resection and with or without distant metastases.\(^{(14)}\) The latter category tend to have tumour progression early in the course of their follow up. 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. Our experience with chemotherapy, was limited to lymphomas with remarkable response,\(^{(15)}\) however the response of fibrosarcoma and liposarcoma to chemotherapy were dismal. Those required radiotherapy to the tumour bed or localized secondary’s not amenable to excision were given radiotherapy.\(^{(15)}\) Several uncontrolled trials in retroperitoneal sarcoma patients have suggested survival benefits with adjuvant therapy.

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 image guided tissue diagnosis. Commonest retroperitoneal tumours to be soft tissue
sarcoma, adrenocortical carcinoma, cystic lymphangioma. Complete surgical resection is the most potential curative treatment modality.

REFERENCES:
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