Case Report **OPEN ACCESS**

A large retroperitoneal tumor with psoas infiltration: A rare case report

Subhash Goyal MS, MAMS, FAIS, FICS[1], Mahesh Gupta MS, DMAS, FMAS[1], Rikki Singal MS, FICS[1]
Rekha Goyal MD [2], Amit Mittal MD[2]

Department of Surgery[1] and Radiodiagnosis[2]
M.M. Institute of Medical Sciences and Research, Mullana, Distt Ambala, Haryana, India.

Citation: Goyal S, Gupta M, Singal R, Goyal R, Mittal A. A large retroperitoneal tumor with psoas infiltration: A rare case report. **North Am J Med Sci** 2010; 2: 285-287.
Availability: www.najms.org
ISSN: 1947 – 2714

Abstract

Context: Retroperitoneal sarcomas are rare neoplasms. Computed Tomography or Magnetic Resonance Imaging is performed in patients with these tumors to detect local extent and distant metastases of the tumor and for preoperative surgical planning. However the evaluation and treatment of retroperitoneal sarcomas are challenging because of its rarity and frequent presentation with advanced disease in an anatomically complex location. **Case Report**: We report a case of large retroperitoneal tumor in a female on the right flank. Ultrasound and Computed tomography scan of the abdomen revealed infiltration into the psoas muscle on the same side along with displacement of adjacent structures. Ultrasound guided fine needle aspiration cytology was suggested of liposarcoma. Surgical resection of the tumor was done. In follow up six months, patient was asymptomatic. **Conclusions**: In case of retroperitoneal tumors CT scan remains the diagnostic modality of choice and the inefficiency of adjuvant therapy; high recurrence rate and the very low chance of curing the patient after recurrence make the prognosis of these patients poor. However surgical resection remains the optimum treatment in all cases of retroperitoneal tumors.

Keywords: Sarcoma, malignancy, fibrous histiocytoma, surgery

Correspondence to: Dr. Mahesh Gupta, Assistant Professor, Department of Surgery, M.M. Institute of Medical Sciences and Research, Mullana, Distt Ambala, Haryana, PinCode133203,India.Tel.: 09050580481, Email: gm982003@yahoo.co.in

Introduction

Retroperitoneal tumor constitutes only 10%-20% of all the sarcomas with an incidence of 0.3%-0.4% per 100000 population[1]. Although they may affect any age group, the peak incidence is found in 5th decade. These malignant tumors arise from mesenchymal cells and are usually located in muscle, fat, and connective tissues. They have varying clinical courses depending on their histological subtype and grade and are usually very large at the time of presentation[2]. CT and MRI are useful investigations to assess its extent and preoperative planning. The treatment options include radiotherapy, chemotherapy and surgical resection, however surgery is found to be the optimum treatment.

Case Report

A 48-year old woman presented with a painful swelling in right flank of 5 month duration. Local examination revealed a non-tender, lobulated, firm mass of about 18 x 15 cm in size in the right flank. Routine investigations were normal.

Abdominal ultrasonography (USG) revealed a primary retroperitoneal mass with liver and right kidney were pushed anterio-superiorly and pancreas anteriorly.

Computed tomography (CT) of the abdomen showed a huge heterogeneous mass lesion of size 20cm x 13cm x 11cm in the retroperitoneal region on the right side extending superiorly up to the inferior surface of right lobe of liver, inferiorly up to the level of upper border of S1 vertebra. Laterally it extended just before the right lateral abdominal wall while medially it was abetting the aorta. Right kidney was displaced anterior-superiorly while the bowel loops and inferior vena cava were pushed anteromedially. The right psoas muscle was not separately visualized and was suggestive of infiltration. The fat

planes between the mass and muscles of posterior abdominal wall and at places between the inferior surfaces of liver were also not well visualized suggestive of infiltration.

Post contrast study revealed strong heterogeneous enhancement with non enhancing areas due to necrosis. No evidence of calcification was seen in the mass. The left kidney, pancreas and spleen and aorta appeared normal. Gall bladder was contracted without any lymphadenopathy. There was no bone erosion. Renal vein and artery were normal.

USG guided fine needle aspiration was done which showed liposarcoma.

On exploration there was a large encapsulated lobulated, firm tumor occupying the right half of the abdominal cavity which was adherent to the right kidney and infiltrating into the psoas major muscle. Tumor was separated from the aorta and kidney after adhenolysis. Debulking of the tumor was done and the resected specimen measured about 20 x 12 cm in size (Figs. 1-3).

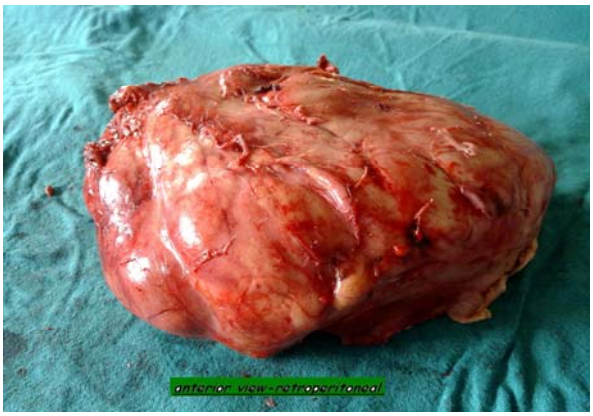

Fig. 1 Gross specimen showing anterior view of retroperitoneal sarcoma. The right kidney was displace anterosuperiorly by the mass and the bowel loops and inferior vena cava were pushed anteromedially. The right psoas muscle was not separately visualized due to infiltration.

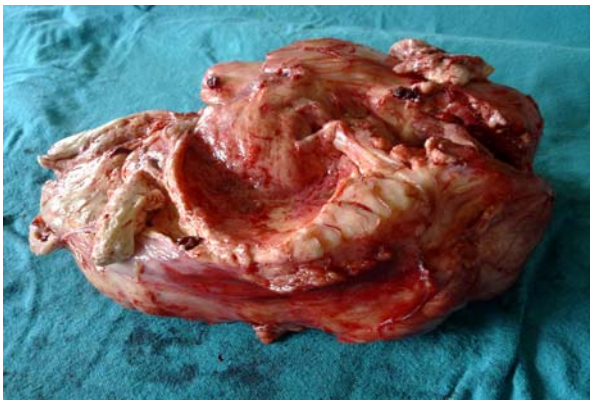

Fig. 2 Gross specimen showing posterior view of retroperitoneal sarcoma extending superiorly up to the inferior surface of the liver and inferiorly up to the S1 vertebra. Laterally it extended just before the right lateral abdominal wall while medially it was abetting the aorta.

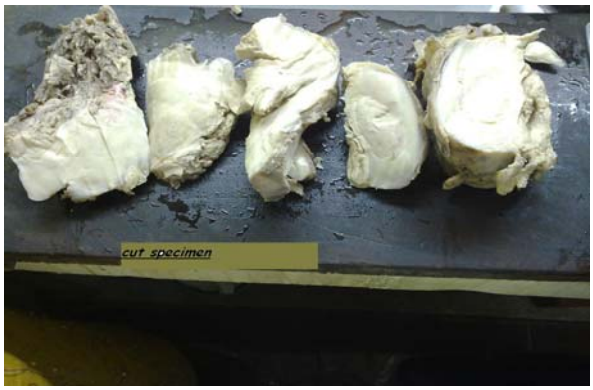

Fig. 3 The cut section of specimen showing features of malignant sarcoma in the retroperitoneum.

Histopathological findings revealed presence of numerous tumor giant cells along with numerous inflammatory cells consisting of polymorphs, lymphocytes and plasma cells and the diagnosis of inflammatory malignant fibrous histiocytoma was made. Patient is asymptomatic on subsequent follow-up of 6 months.

Discussion

Retroperitoneal sarcomas are rare tumors accounting for only 1%–2% of all solid malignancies arising from mesenchymal cells, which are usually located in muscle, fat, and connective tissues [2,3]. In different studies the most common types of retroperitoneal soft tissue sarcomas in adults vary and the most commonly encountered histologic subtypes of retroperitoneal sarcoma remain liposarcoma(41%), leiomyosarcoma (28%), malignant fibrous histiocytoma (7%), fibrosarcoma (6%), and malignant peripheral nerve sheath tumor (3%) [3].

Commonest clinical presentation is an abdominal mass because of the fact that retroperitoneal sarcoma smaller than 5 cm usually remain silent. The only signs and symptom if any are non-specific e.g. vague abdominal discomfort or pain, weight loss, and early satiety where as some cases may present with intestinal obstruction or bleeding. Lower extremity swelling or pain has also been reported as presenting symptoms[4].

CT remains the diagnostic modality of choice in suspected retroperitoneal sarcoma. It facilitates accurate estimation of tumor location and size, its relationship to surrounding anatomic structures, and identification of metastatic lesions within the abdomen[5].

Primary radiation therapy for cure is seldom effective for retroperitoneal sarcomas but can provide palliation in selected cases. Systemic chemotherapy for chemo sensitive lesions, such as poorly differentiated liposarcoma, malignant fibrous histiocytoma (MFH), synovial cell sarcoma, and primitive neuroectodermal tumors (PNET), can be useful when used in a neoadjuvant manner[6]. Consequently, surgical resection is the mainstay of treatment for retroperitoneal sarcomas and requires enbloc resection of the primary tumor [7].

In case the tumor cannot be separated from the adjacent organs then the resection includes tumor along with the organ involved such as colon, small bowel, kidney, adrenal, and pancreas[8]. Postoperative adjuvant chemotherapy and radiation have not been proven to be of any additional benefit. Overall prognosis is influenced by tumor size, grading and resected margins. CT scans at every 6-month intervals can be of immense value to rule out any recurrence because these tumors usually recur within 2 years of initial surgical resection[9].

Conclusion

A rare case of retroperitoneal tumor of huge size infiltrating the psoas muscle is reported. Inflammatory malignant fibrous histiocytoma is extremely rare. However all the retroperitoneal tumors should be subjected to surgical excision to achieve optimum results.

References

1. Mettlin C, Priore R, Rao U. Results of the national soft tissue sarcoma registry. J Surg Oncol 1982; 19:224–227.
2. FrancisIR, Cohan RH, Varma DGK, Sondak VK. Retroperitoneal sarcomas. Cancer Imaging 2005; 5(1): 89–94.
3. Windham TC, Peter WT, Pisters. Retroperitoneal Sarcomas. Cancer Control 2005; 12(1):36-43.
4. Stawicki SP. Retroperitoneal sarcomas. OPUS 12 Scientist. 2007; 1(1):17-18.
5. Neville A, Herts BR. CT Characteristics of Primary Retroperitoneal Neoplasms. J Cardiovasc Mag Reson 2004; 45(4):247 -270.
6. Eilber FC, Eilber KS, Eilber SR. Retroperitoneal sarcomas. Cur Tret Opt Oncol 2000; 1(3):274-278.
7. Gholami S, Jacobs CD, Kapp DS, Parast LM, Norton JA. The Value of Surgery for Retroperitoneal Sarcoma. Sarcoma 2009;2009:605840.
8. Xu YH, Guo KJ, Guo RX, Ge CL, Tian YL, He SG. Surgical management of 143 patients with adult primary retroperitoneal tumor. World J Gastroenterol 2007 May 14; 13(18): 2619-2621.
9. Gupta AK, Cohan RH, Francis IR, Sondak VK, Korobkin M. CT of Recurrent Retroperitoneal Sarcomas. AJR.2000; 174:1025-1030.