

## Retroperitoneal liposarcoma presented as inguinoscrotal mass: Case Report

Dr.Gaurang Raiyani<sup>1</sup>, Dr.Dilip Choksi<sup>2</sup>, Dr.Anis Vohra<sup>3</sup>

**ABSTRACT:** Liposarcoma is one of the most common soft tissue sarcoma. About 20% of liposarcomas originate in the retroperitoneum. It manifests as painless, slowly enlarging soft tissue mass. Inguinal region is one of the uncommon locations for liposarcoma, the tumour arising from the spermatic cord. Very rarely retroperitoneal liposarcoma may manifests as inguinal hernia. We describe case of a 60 years old man who presented with right inguinoscrotal mass that was demonstrated to be solid enhancing fat attenuation mass with small areas of soft tissue attenuation inside on multi-detector-row computed tomography (MDCT). Coronal reformatted CT revealed dumbbell shape mass with larger retroperitoneal component contiguous with smaller right para-testicular component across a narrow segment in the inguinal canal. Patient was operated and a large retroperitoneal mass was removed. Histopathology of the resected mass revealed a well differentiated liposarcoma. Thus, firm, non-tender and large irreducible inguinoscrotal swelling in an adult should be evaluated by CT to rule out a rare inguinal extension of retroperitoneal liposarcoma. MDCT, besides revealing the diagnosis can determine the true intra-abdominal (retroperitoneal) extent of such a dumbbell shaped tumour when only tip of iceberg is visible in the inguinal region.

**Key words:** inguinal canal, inguinoscrotal mass, liposarcoma, multi-detector-row computed tomography, retroperitoneum

<sup>1,3</sup> Assistant Professor, Dept. of Surgery, GMERS Medical College: Gotri, Vadodara, India

<sup>2</sup> Dept. of Surgery, Medical College, Baroda.

Corresponding Author mail: [dreamy\\_raiyani@yahoo.com](mailto:dreamy_raiyani@yahoo.com)

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**INTRODUCTION:** Liposarcoma is one of the most common soft tissue sarcomas. About 20% of liposarcomas originate in the retroperitoneum. It manifests as painless, slowly enlarging soft tissue mass.<sup>1</sup> Inguinal region is one of the uncommon locations for liposarcoma, the tumour arising from the spermatic cord.<sup>2</sup>

Here liposarcoma needs to be differentiated from other more common pathologies in the canal including hernia.<sup>2-</sup>

<sup>3</sup> Very rarely retroperitoneal liposarcoma may manifests as inguinal hernia.<sup>4-6</sup> We describe a case of right inguinoscrotal mass that on multidetector-row computed tomography (MDCT) was demonstrated to

be solid enhancing fat attenuation mass with few areas of soft tissue attenuation inside. Coronal reformatted computed tomography (CT) revealed dumbbell shape mass with larger retroperitoneal component contiguous with smaller right paratesticular component across a narrow segment in the inguinal canal.

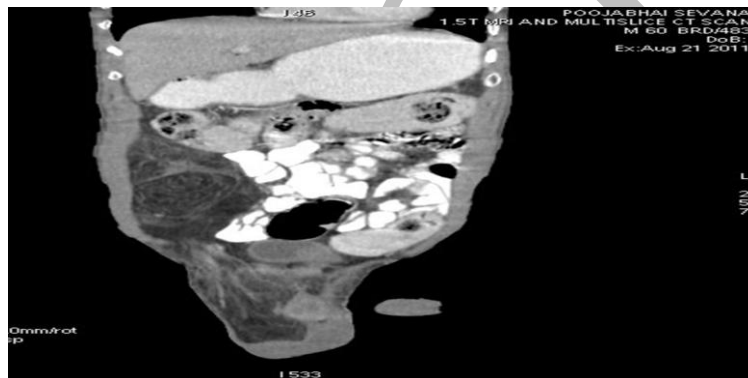
**CASE REPORT:** A 60 years old man presented with history of slowly enlarging painless right inguinoscrotal swelling for the last 1 year. He had presented six months before with similar complains with smaller swelling, which was diagnosed as right inguinal hernia then. Repair of right inguinal hernia was advised but patient refused at that time. Local examination of the patient revealed a large 7\*5 cm<sup>2</sup> size firm swelling in the right inguinoscrotal region. [Image 1] The swelling was non-tender and not reducible into the abdomen. Diffuse bulge was present in the right lumbar region. There was no significant medical history; general and physical examination was unremarkable. MDCT was performed with 64 slices to determine the exact nature of right inguinoscrotal mass. CT revealed a large 10\*4.5 cm<sup>2</sup> size

retroperitoneal mass in right lumbar and iliac region of abdomen displacing bowel loops towards left. Mass showed predominant areas of fat density and small areas of soft tissue attenuation. Saggital reformatted CT showed the entire cranio-caudal extent of the mass with larger superior retroperitoneal component and smaller inferior right scrotal component. Coronal reformatted CT demonstrated contiguity of the larger retroperitoneal mass with the paratesticular mass across a narrow component through the right inguinal canal giving dumbbell appearance to mass. [Image 2] A diagnosis of retroperitoneal liposarcoma possibly well differentiated type was made on the basis of CT findings. Patient was operated and a large retroperitoneal mass was resected; inguinal component of mass was found inseparable from the spermatic cord and attached to right testis. [Image 3] Right orchidectomy was performed. Final specimen was sent for Histopathological examination. [Image 4] HPE revealed a well differentiated liposarcoma. [Image 5] Patient was doing well on six months follow up.

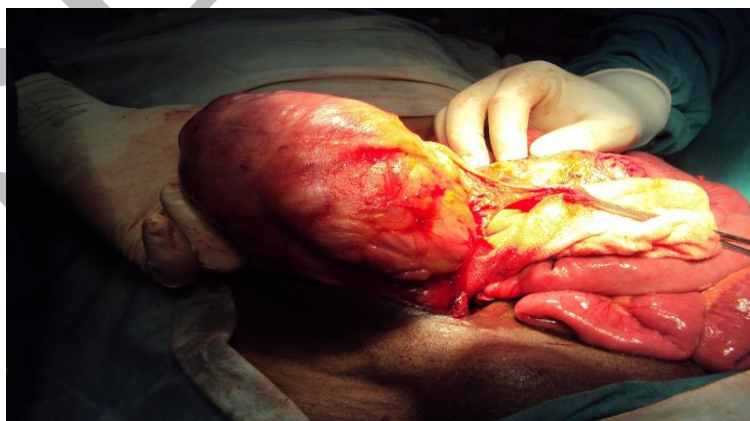
**Image 1: Showing right inguinal-scrotal swelling**



**Image 2: Coronal CT image showing dumbbell shape mass**



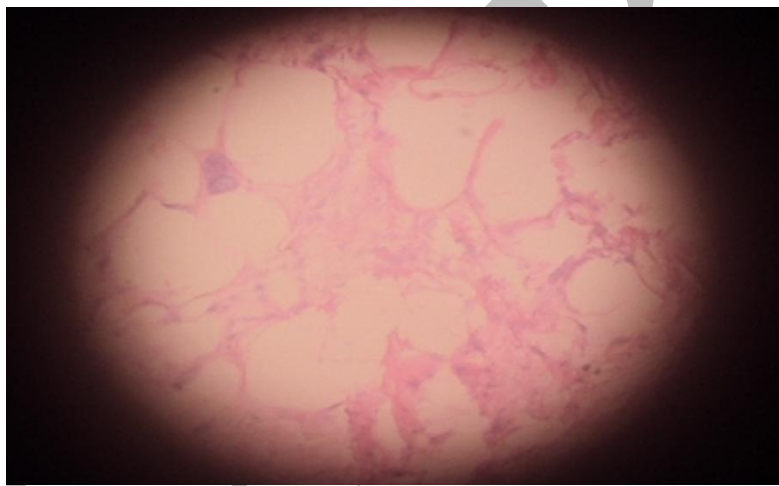
**Image 3: Showing intra operative image of mass**



**Image 4: Showing image of resected specimen**



**Image 4: Showing Histo-pathological image of well differentiated liposarcoma**



**DISCUSSION:** Liposarcoma is malignant mesenchymal tumour of adipose tissue. It has four subtypes: well differentiated, myxoid, pleomorphic and dedifferentiated. It most commonly originates in extremities and retroperitoneum, inguinal region is uncommon location for liposarcoma. <sup>1, 2, 4, 7</sup> Inguinal liposarcoma most commonly arises from spermatic cord. Inguinal canal also has communication with retroperitoneum. This creates pathway for extension of retroperitoneal sarcomas into

the paratesticular region. Location of the main bulk of tumour in the retroperitoneum contiguous via a narrow inguinal canal with the small scrotal mass giving dumbbell appearance was compatible with primary retroperitoneal location of the mass with extension into the inguinal region in our case.

Inguinoscrotal liposarcoma arising from spermatic cord or extending from retroperitoneum may be mistaken for inguinal hernia. <sup>4-7</sup> However, firm, non-

tender feel of swelling which is not reducible in a patient without features of intestinal obstruction should alert surgeon for a possible tumour. CT and MRI can determine the nature of swelling and its extent. [1, 3, 8, 9] It also helps in preoperative diagnosis of liposarcoma by identifying characteristic attenuation of fat within the mass. Well differentiated type shows predominant fat attenuation component whereas myxoid and dedifferentiated types show soft tissue attenuation masses. Possible histological subtypes and prognosis can be determined with MDCT preoperatively. CT also recommended in follow up for detecting recurrence early. [9]

Prognosis of retroperitoneal liposarcoma depends on size, histological subtype, operability and mode of treatment employed. Distant metastases commonly associated with dedifferentiated type. Local recurrence common after surgery is common hence wide local resection done to achieve free margins. Radical orchidectomy is recommended for paratesticular tumour. Role of radiotherapy and chemotherapy for treatment of primary or metastatic masses is controversial. [4, 6, 7] Regular follow up every 3 months

required to detect early local recurrence. [9]

**CONCLUSION:** A firm, non-tender and large irreducible inguinoscrotal swelling in an adult should be evaluated by CT to rule out a rare inguinal extension of retroperitoneal liposarcoma. MDCT, besides revealing diagnosis can determine the true retroperitoneal extent of such dumbbell shaped tumour when only tip of iceberg is visible in the inguinal region.

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