



Symptomatic Giant Retroperitoneal Lipomatous Lesion: a Case Series and Review of the Literature of a Rare Pathology

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Abstract

Adipocytic lesions are tumors of mesenchymal origin, which can be either benign (lipoma, lipomatosis, etc.) or malignant (liposarcomas). Both tumors may share similar clinical presentations but differ histologically. Histology and tumor location are independent predictive outcome for long-term survival. Complete surgical resection is the main treatment followed by adjuvant therapy for malignant disease. We present two cases that were clinically similar but differ histologically.

Keywords: Liposarcoma, Lipoma, Retroperitoneal lipoma, Retroperitoneal tumor

Introduction

Liposarcoma and lipoma are two distinct histological tumors. Both commonly present in the 4th to 6th decades of life [1]. Lipomas are benign lesions while liposarcomas are malignant neoplasms derived from mesenchymal cells. Both tumors may share similar clinical presentations but differ histologically. Lipomas, composed of mature adipocytes, are one of the most common benign mesenchymal neoplasms. Majorities are encountered in a subdermal location in the upper half of the body, particularly the trunk and neck [2]. However, deep seated lipomas, particularly those originating in retroperitoneal space, are unusual if not rare [3]. Many case reports emphasize the large size of these benign tumors, which can be explained by the potential space available for tumor growth before they come to clinical attention. The symptoms result from pressure exerted by their excessive size on adjacent anatomical structures. Since liposarcomas are one of the most common sarcomas in the retroperitoneum, the most important differential diagnosis in such cases is well differentiated liposarcoma. Most lipomas are well defined and the presence of fat can be detected on pre operative CT scan or MRI [3]. Although, it is difficult to differentiate low grade liposarcoma from a benign lipoma based solely on CT scan or MRI findings, heterogeneity, areas of enhancement or necrosis, and irregular margins are often seen on the CT scan of a liposarcoma [4]. The final diagnosis rests on histopathological evaluation to assess mitotic activity, cellular atypia, necrosis and invasion.

Case Presentation

Case 1

A 79 year-old man presented at our Department with medical history of hiatal hernia, hemorrhoids disease and previous operations for coronary bypasses, cholecystectomy, prostatectomy and appendectomy. A diagnosis of incarcerated inguinal hernia was made by family physician. The patient came to our center referring increase abdominal volume, 10 kg weight gain lasting 8 years and recurrent inguinal pain lasting by 2 months. After an episode of vomiting appearance he was submitted to blood tests and abdominal ultrasonography discovering a voluminous abdominal tumor. Computerized Tomography (CT) scan findings revealed a well-encapsulated mass of 32.8 mm maximum diameter, with fatty attenuation occupying right abdomen displacing the duodenum, the pancreas, the mesentery, the small intestine and the right colon, with compression of the inferior cava vein (Figure 1). The abdominal MRI confirmed the diagnosis of a fatty neoplasm of 370 mm x

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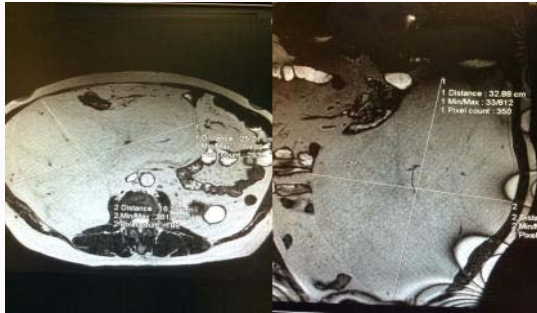


Figure 1: CT scan showing a giant retroperitoneal lipoma, departing from right Gerota plan, also involving the great omentum and pushing away intestinal loops in the left side of abdomen.



Figure 2: Abdominal MRI confirming the presence of a giant retroperitoneal lipoma.

290 mm in the retroperitoneal right abdomen (Figure 2).

The tumor was excised in trans-peritoneal manner with xifo-pubic laparotomy. The well-capsulated tumor occupying the entire right side of the abdomen was found, with an arterial-venous pedicle of great caliber in the posterior side coming from the psoas muscle (Figure 3). There was minimal adhesion surrounding the tumor and hence the surrounding tissues were left intact. There was a regular postoperative course and the patient was discharged in sixth postoperative day.

The histopathology was reported as solid encapsulated lesion of 480 mm × 180 mm × 100 mm and 3.8 kg weight with atypical adipose cells without signs of malignancy and with absence of necrosis or mitosis. A diagnosis of lipoma was made. No adjuvant chemo or radiotherapy was given after discussion with our oncologist. Clinical follow-up with abdominal CT/RMN and chest Rx every 6 months for the last 5 years showed no signs of recurrence.

Case 2

A 54-years-old male presented at our Department with medical history of hypertension and previous operations for prostatectomy and tonsillectomy. The patient came to our center referring constipation and the increase abdominal volume. He was submitted to abdominal ultrasonography discovering a voluminous abdominal mass arising from epi-mesogastric area to right side of the abdomen. Routine laboratory were normal. CT scan revealed a mass measuring 145 mm × 188 mm × 193 mm in size, composed predominantly of fatty element with soft tissue strands arising from the retroperitoneal

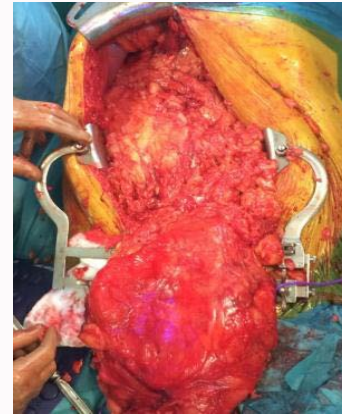


Figure 3: Intraoperative picture of the lipoma mass.

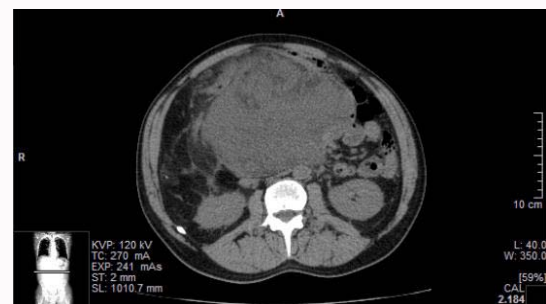


Figure 4: CT scan showing a retroperitoneal mass composed mostly of fatty element with soft tissue strands arising from the retroperitoneal space suggestive of liposarcoma.

space, as well as from the epi-mesogastric area pushing small bowel, right kidney and the retroperitoneal vessels toward the right side, suggestive of liposarcoma (Figure 4).

Patient underwent to surgical intervention and the mass was totally removed in trans-peritoneal manner with xifo-pubic laparotomy. There was tenacious adhesions with duodenum, pancreas and the small bowel appeared completely dislocated to left side. There was a regular post-operative course and the patient was discharged in seventh postoperative day.

The histopathology was reported as a mass of 200 mm × 160 mm in size of 2.7 kg of weight as with mature adipocytes arranged in lobules, traversed by delicate vascular collagen septa in sections from the periphery and thick bands of mature fibrous tissue in sections from the center of tumor. Cellular atypia, lipoblasts and necrosis was observed in the section examined. The diagnosis was dedifferentiated liposarcoma of high grade (G3).

No oncological therapy was given after surgery. Clinical follow-up at our oncological department for the last 2 years showed no signs of recurrence.

Discussion

Lipomas are adipose tissue tumors and constitute one of the most common benign neoplasms generally encountered in the fifth or sixth decade of life. The etiology is not clear and they are known to be both sporadic and inherited [5]. The cell of origin is believed to be the mesenchymal primordial fat tissue cells and not the adult fat cell [6]. Giant retroperitoneal lipomas in adults are scarce, with a total number of 19 cases described in the literature since 1980 [7].

Retroperitoneal lipomas are usually asymptomatic for a long time before they cause abdominal swelling or symptoms due to obstruction or shifting of adjacent organs and structures. At this point, they may have already reached enormous size. This may be explained by the great retro- peritoneal space that allows them to grow before they get symptomatic and the slowness of their enlargement. The diagnosis is based on a MRI (magnetic resonance imaging) or CT-scan, yet both imaging modalities may not exclude a well-differentiated liposarcoma. Further- more, biopsies often remain inconclusive. The incidence of soft-tissue sarcomas in general is described with 4 cases per 100.000 and year [8], of which liposarcomas are the most common and are located in one third of cases in the retroperitoneum [9]. The incidence of retroperitoneal lipomas on the other hand is thought to be extremely rare. Hence, a well-differentiated liposarcoma may not be ruled out preoperatively, even if a benign lipoma is clinically suspected. Therefore, intraoperative judgment about tumor characteristics and subsequent decision making about the extent of resection is of great importance. Resection with negative margins (R0) is crucial to the patient's prognosis in case of a liposarcoma; therefore a wide excision should be carried out if infiltrative growth is suspected or if there is any doubt about dignity [10]. Sole extirpation should be reserved for clearly circumscribed tumors. However, due to the enormous size of the tumor preoperative judgment about resectability based on CT-scans is difficult. Therefore, tumor debulking for symptom relief can also be discussed if oncological resection is not feasible. Due to the possible malignant nature of such retroperitoneal tumors resection should be carried out by a trained oncological surgeon in a center of excellence for soft-tissue sarcomas [10]. In this case the tumor was clearly demarcated macroscopically and without any sign of infiltrative growth. Since clinical and experimental data on tumor progression and tumor recurrence of retroperitoneal lipomas are lacking a close and regular follow-up is indicated.

Conclusion

Retroperitoneal lipomas are a rare condition. The presented case points out those abdominal lipomas can grow to enormous size and

cause clinically significant symptoms and, even if massively enlarged, are resectable with good clinical outcome. Further research is required to fully understand the underlying etiology and genetic mechanisms. The most important differential diagnosis is the more frequent well-differentiated liposarcoma, therefore oncological resection should always be considered.

References

1. Verdin V, Preud'Homme L, Lemaire V, Jacquemin D. Giant lipoma on the back. *Rev Med Liege*. 2009;64(7-8):414-7.
2. Harrington AC, Adnot J, Chesser RS. Infiltrating lipomas of the upper extremities. *J Dermatol Surg Oncol*. 1990;16(9):834-7.
3. Macareno RS, Erickson-Johnson M, Wang X, Folpe AA, Rubin BP, Nascimento AG, et al. Retroperitoneal lipomatous tumors without cytologic atypia: Are they lipomas? A clinicopathologic and molecular study of 19 cases. *Am J Surg Pathol*. 2009;33(10):1470-6.
4. Asif Y, Erem B, Tolga G, Ebru Z, Reşit T. A giant retroperitoneal lipoma: A case report. *Marmara Med J*. 2005;18(3):140-2.
5. Leffell DJ, Braverman IM. Familial multiple lipomatosis: Report of a case and a review of the literature. *J Am Acad Dermatol*. 1986;15(2 Pt 1):275-9.
6. Terada T. Giant fibrolipoma of the spermatic cord. *Pathol Int*. 2010;60(4):330-2.
7. Weniger M, D'Haese JG, Kunz W, Pratschke S, Guba M, Werner J, et al. En-bloc resection of a giant retroperitoneal lipoma: a case report and review of the literature. *BMC Res Notes*. 2015;8:75.
8. Casali PG, Jost L, Sleijfer S, Verweij J, Blay JY, ESMO Guidelines Working Group. Soft tissue sarcomas: ESMO clinical recommendations for diagnosis, treatment and follow-up. *Ann Oncol*. 2008;19(2):89-93.
9. Dalal KM, Antonescu CR, Singer S. Diagnosis and management of lipomatous tumors. *J Surg Oncol*. 2008;97(4):298-313.
10. ESMO/European Sarcoma Network Working Group. Soft tissue and visceral sarcomas: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Ann Oncol*. 2012;23(Suppl 7):vii92-9.