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RETROPERITONEAL PERINEPHRIC LIPOMA: A RARE CAUSE OF ABDOMINAL DISCOMFORT - DIAGNOSIS AND TREATMENT STRATEGIES- CASE REPORT

General Surgery

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ABSTRACT

Lipomas are most common benign soft tissue tumors of mesenchymal origin. They are ubiquitous and can arise from any part of the body. But giant lipoma are rare lesions which can be >10 cm in size and >1 kg in weight. Retroperitoneal lipomas are a rare condition, with just 22 case reports describing the tumour in adults in the previous literature of PubMed since 1970[3-22]. They account for 2.9% of primary retroperitoneal tumors, approximately 80% of which are known as malignant. Malignancy can be ruled out only after excision and histopathological examination of specimen.Here we present a case of A 57 year old came with the chief complaints vague full aching pain in the right side of the abdomen for 3 months.Cect abdomen was taken for the patient, report was given as well-defined capsulated fat density lesion was noted in the right anterior pararenal space measuring 8.2×8.9×10.1 cm. Intraoperatively,it was found was mass was arising from the perinephric fat below the gerotas fascia and it was surroundings the right ureter on the Inferior pole. Meticulously dissection was carried out and mass was dissected away from the ureter and right kidney.Post operative histopathology was reported as Lipoma. Retroperitoneal lipomas are rare benign tumors originating from adipose tissues and they tend to have large sizes. Imaging examinations, especially CT and MRI, are fundamental diagnostic tools for these tumors. Surgical resection is the main treatment method. En bloc resection is commonly required. Postoperative histopathology determines the final diagnosis, and immunohistochemical analysis could be useful in the differentiation of liposarcomas. Regular follow-ups are also required for the patients.

KEYWORDS

INTRODUCTION

Lipomas are most common benign soft tissue tumors of mesenchymal origin. They are ubiquitous and can arise from any part of the body. But giant lipoma are rare lesions which can be >10 cm in size and >1 kg in weight. Giant lipoma of extremities cause significant functional and mechanical impairment which affects day to day activities of the patient and also cause cosmetic disfigurement. Although malignant transformation is rare,it can be ruled out only after excision and histopathological examination of specimen.

Case Report

A 57 year old came with the chief complaints vague full aching pain in the right side of the abdomen for 3 months. He had no other significant symptoms. He was a smoker and alcohol for past 25 years. On examination, abdomen was soft, no tenderness and no mass was palpable per abdomen. On subjecting to Usg abdomen, a ill defined mass of size 11× 9 was present in the right retroperitoneum and suggested further evaluation. Cect abdomen was taken for the patient, report was given as well-defined capsulated fat density lesion was noted in the right anterior pararenal space measuring 8.2×8.9×10.1 cm. Lesion was displacing D2 and D3 segment of duodenum anteriorly and displacing right kidney postero-superiorly and inferior venacava medially. No evidence of infiltration of adjacent structures. Surgical oncology opinion was obtained and laparotomy and excision was planned

Intraoperatively, peritoneum was opened and cattell braasch maneuver was done ascending colon was medialised. Retroperitoneum was opened. Well defined capsulated fatty lesion was present. Mass was seperated from the duodenum superiorly, medially from the Inferior vena cava. On proceeding to seperated the mass inferiorly, it was found was mass was arising from the perinephric fat below the gerotas fascia and it was surroundings the right ureter on the Inferior pole. Meticulously dissection was carried out and mass was dissected away from the ureter and right kidney. After securing adequate hemostasis, abdomen was closed. Post operative period was uneventfull. Diet was started on Pod- 2. Postoperative histopathology report was given as Lipoma. The lesion showed lobules of mature adipocyte with internal collagenous stromal exhibiting congested blood vessels.

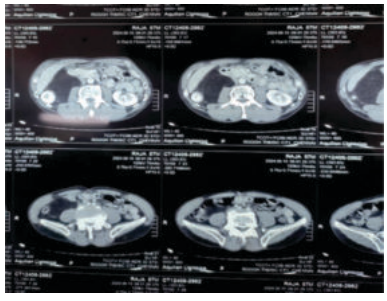

Figure 1 - CT Image Showing Right Pararenal Retroperitoneal Lipoma

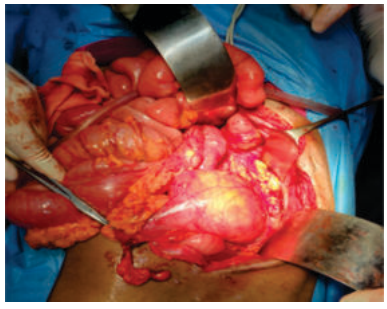

Figure 2 - Intraoperative Pic Showing The Lesion Arising From The Perinephric Fat

Figure 3 - Specimen Attached To The Kidney

Figure 4 - Post Operative Specimen Pic

DISCUSSION

Lipoma is the most common benign tumor of the adipose tissue. Lipomas have prevalence rate of 2.1 per 1000 of population and constitute 16 % of all mesenchymal neoplasms .Giant lipomas are defined by measuring at least 10 cm in diameter in one dimension or by a minimum weight of 1000 g. It can occur anywhere in the body. They are usually located on the trunk or extremities; however, they can also be subcutaneous,interosseous, visceral, intramural, subfacial or intermuscular.[1,2,3]

Intermuscular lipomas grow between the large bundles and often form a large central tumor that secondarily infiltrates adjacent muscles. On the other hand, an intramuscular lipoma is considered to originate between the muscle fibers within the muscle bundles themselves and penetrates adjacent muscle passing through the intermuscular septa. .The subcutaneous or superficial lipomas are more common than deep lipomas occurring in muscular compartments. Adipose tissue accumulation is higher in females than in males; therefore, lipomas are more frequently encountered in women and more common in the 40–60 years age group.[3]

The exact pathophysiology of lipomas is unclear.Genetics may play a role in a minority of patients, as 2% to 3% of affected patients have multiple lesions inherited in a familial pattern.An gene association has been described on chromosome 12 in some solitary lipomas; a mutation in the HMGA2-LPP fusion gene is present in some of these tumors.There also are several genetic syndromes that feature lipomas as a clinical manifestation. The incidence of lipomas is also increased in patients with obesity, hyperlipidemia, and diabetes mellitus.[9,10]

Most lipomas present as small subcutaneous swellings without any specific symptom. They are usually single, and evolve over many years asymptomatically, except when they compress adjacent tissues such as muscles and nerves. When they occur in lower limbs, they may affect walking due to their excessive size and weight. Clinical features of these giant lipomas are mainly due to their size and may include pain from stretching or compression of adjacent nerves, compartment syndrome, restriction in movements of the joint involved, and social embarrassment or inability to wear clothing. [4,5]

They are usually soft in consistency, but in some cases, they can be relatively firm and impressive in size. The only difference between subcutaneous fat and lipoma is that lipoma contains a few thin septa which are less than 2 mm thick.

Malignant transformations (liposarcoma) are rare and should be investigated when tumors grow fast, are recurrent or when there are skin ulcers .Liposarcoma is a long-term complication of the disease; these lesions may progress histologically (dedifferentiate), a phenomenon that confers metastatic potential. Dedifferentiation is largely a time-dependent phenomenon that occurs in sites in which there is a high likelihood for clinical persistence of disease (eg, the retroperitoneum).[2,5]

Liposarcomas are associated with immature fat cells or lipoblasts. These cells have an eccentric, hyperchromatic nucleus that is indented or scalloped by the presence of one or more fat vacuoles. Proliferation of mature adipocytes

- Paucicellular fibrous septa can be present
- Fat necrosis is often found in larger tumor[6]

Due to the large size, the measurement of retroperitoneal tumors by preoperative imaging examinations can be inaccurate. Despite their typical presentations on CT and MRI, both imaging modalities may not rule out the possibility of WDLPS[29]. Approximately 80% of retroperitoneal tumors appear to be malignant, most of which are soft-tissue sarcomas, a category of very uncommon neoplasms, with an overall incidence of 0.3% to 0.4% per 100000 people.[11]

The characteristics of benign lipomas on ultrasonography, computed tomography and magnetic resonance imaging have been well established, and technetium-99 diethylenetriaminepentaacetic acid scanning has also been used to confirm the diagnosis. Indications for biopsy include a firm, rapidly enlarging mass.lipomas with benign ultrasound and CT scan findings such as thin septa, homogenous echogenicity, and well-defined capsule limits. CT or MRI features that distinguish between lipomas and liposarcomas, suspicious characteristics such as large size, heterogeneity, irregularly thickened septa, high degree of vascularity, and low-fat content all warrant an initial biopsy.[7]

Some authors recommend electromyography, both in the pre-and postoperative periods, to evaluate possible changes in electrical conductivity of the adjacent nerve and in the electrical activity of muscular tissues of the affected limb, considering that, due to their size, these tumors may compress and affect these structures. Electromyography is useful in these cases for surgical planning and postoperative follow-up of the functional recovery of affected limb.[6]

Lipomas are removed for the following reasons; cosmetic motives, evaluation of histology, mainly when liposarcomas must be ruled out, when they cause symptoms or when they grow and become larger than 5 cm.[3]

In case of retroperitoneal lipoma, Commonly, en bloc removal of the involved structures is required. The prognosis and recurrence risk for patients with benign retroperitoneal lipomas are unclear due to the limited number of case reports. Patients are often recommended to receive regular clinical and radiologic follow-ups.Lipomas can be managed conservatively or excised. For treatment of giant lipomas of other areas, there are two surgical options; open surgical excision and suction lipectomy.open surgical excision is considered as the best treatment.Marginal excision can be done for well circumscribed lipomas and wide excision with a free margin is required for the infiltrative type of lipoma to prevent recurrence. When muscles are invaded or impaired, in addition to removing the tumor, it may be necessary to remove part of the muscular tissue. When they are intermuscular, it is possible to remove tumors without affecting the adjacent muscular tissues, as in the case herein described.The amputation of the affected limb is rare, and only indicated when there is a major impairment of the muscles, requiring extensive resections and, consequently, causing functional disability. The suction lipectomy has good cosmetic result but incomplete removal of extensions, left out thick and fibrous capsule, trauma to neurovascular structures by tip of suction cannula can lead to high recurrence rate. [5,8]

CONCLUSION

Retroperitoneal lipomas are rare benign tumors originating from adipose tissues and they tend to have large sizes. Imaging examinations, especially CT and MRI, are fundamental diagnostic tools for these tumors. Surgical resection is the main treatment method. En bloc resection is commonly required. Postoperative histopathology determines the final diagnosis, and immunohistochemical analysis could be useful in the differentiation of liposarcomas. Regular follow-ups are also required for the patients.

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