

Case Report
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A Diagnostic Dilemma: Intra Abdominal Lipoma Presenting as a Metastatic Breast Cancer-A Case Report

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ABSTRACT

Encapsulated mesenchymal tumours, or lipomas, can develop in any part of the body at any age. However, intra-abdominal lipomas are uncommon and typically develop in children. Adult cases of intra abdominal lipomas are extremely rare. Most cases have no symptoms and are incidentally discovered. Patients may occasionally exhibit nonspecific to severe symptoms due to complications. Here, we describe a case of an intra-abdominal lipoma in patient of Breast Cancer post treatment which was in the lesser peritoneal sac measuring approximately 36x17x10cm that nearly occupied the upper half of the abdominal cavity without any specific symptoms or source of origin This case highlights the importance of considering benign diagnoses, even in patients with a history of cancer, and the role of imaging and biopsy in resolving a diagnostic dilemma when large intra-abdominal tumours occur in such patients.

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Introduction

Encapsulated mesenchymal tumors, or lipomas, can develop in any part of the body at any age. However, intra-abdominal lipomas are uncommon and typically develop in children. Adult cases of intra-abdominal lipomas are extremely rare [1]. Most cases have no symptoms and are incidentally discovered. Patients may occasionally exhibit symptoms because of the lump compressing adjacent organs, or some complication like torsion, hemorrhage, etc. which can cause severe symptoms. Here, we describe a case of an intra-abdominal lipoma rarely found in the lesser peritoneal sac that nearly occupied the upper half of the abdominal cavity without any symptoms or source of origin.

Case Report

A 62-year-old woman with a history of left breast cancer, underwent left modified radical mastectomy in 2016 followed by adjuvant chemotherapy and was on follow up as per NCCN guidelines six monthly for five years and annual follow up after that with no complaints or recurrence since then. In January'2024 she reported a sensation of bloatedness and losing her appetite in the past three months. An FDG PET scan was done to rule out any recurrence or metastasis which revealed a large, multiseptated mass, uniformly echogenic that filled the entire upper abdomen and reached the left paracolic gutter with no abnormal metabolic activity (Figure-1).

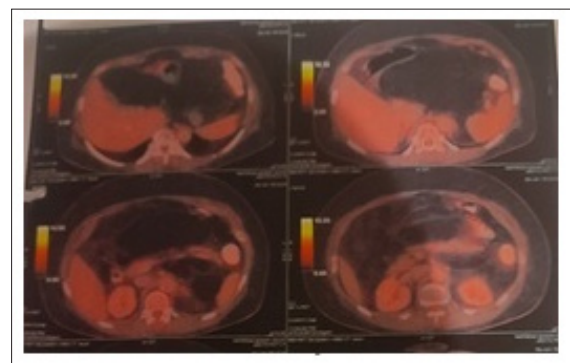


Figure 1: Pet CT image Showing Tumour Involving Entire Upper Abdomen without FDG Activity.

We performed image guided biopsy which was suggestive of Lipoma like mature adipose tissue with no features of atypia or malignancy. Hence the decision was taken to go ahead with Exploratory Laparotomy and excision of the tumor. All the required preoperative investigations were done and went ahead to surgery. A midline vertical incision was taken over the abdomen and abdominal cavity entered; a soft bossellated lump identified arising from the lesser peritoneal sac (Figure-2). Upon further dissection of gastrocolic ligament and entering the lesser sac, it was observed that the lump was present behind the stomach in the lesser sac or omental bursa adherent to the posterior wall of stomach and supracolic omentum but not involving them, superiorly extending up

to the gastro esophageal junction and splenic hilum but not encasing any vascular structures, hence the spleen was spared (Figure-3). Inferiorly, the tumor was limited by the mesocolon along with the middle colic vessels and the root of mesentery but extended on the left below the pancreas (Figure-4) and above the gerota's fascia up to the left renal hilum including the whole left suprarenal template (Figure-5). On the right side, the tumor extended along the paraduodeneal region into the right paracolic gutter.



Figure-2: Figure Showing Tumour Arising from the Lesser Sac through Omentum.

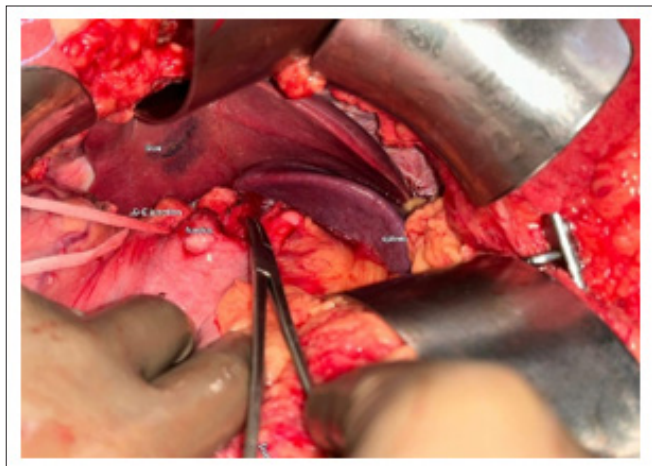


Figure-3: Tumour Extending Upto Gastro-Esophageal Junction and Splenic Hilum

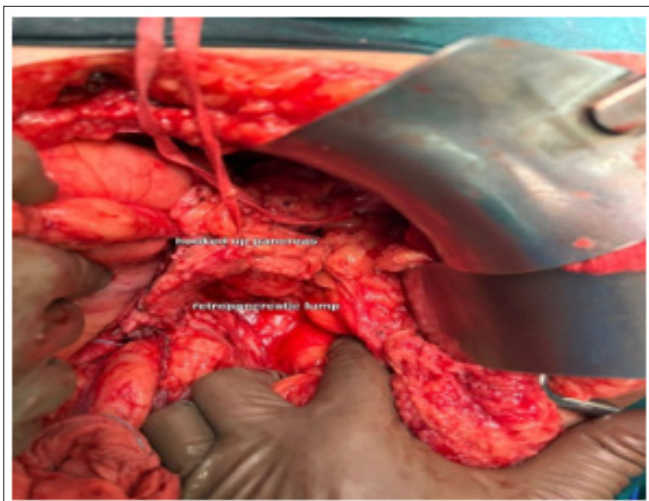


Figure-4: Tumour Extending into the Retroperitoneum Behind the Pancreas

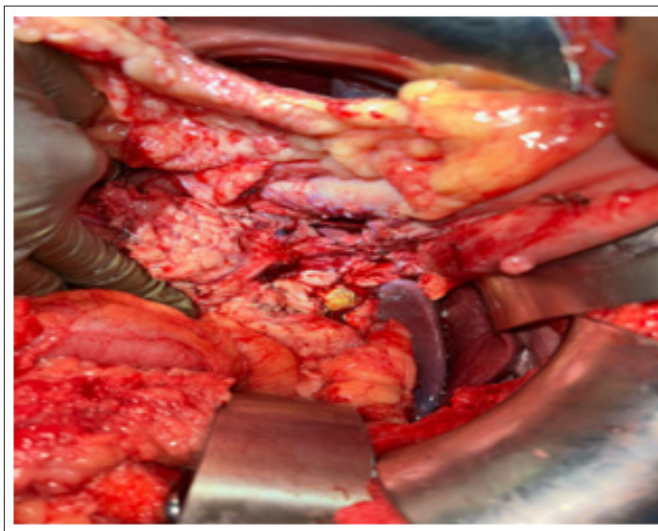


Figure-5: Figure Showing the Tumour Bed from Superior to Inferior Stomach, Pancreas, Left Adrenal Gland, Left Kidney and Spleen

The tumor was gently dissected from all the above-mentioned locations safeguarding the vital structures and organs, and the mass was removed enmasse. The abdomen was closed in layers after placing drains in the subhepatic space and left para colic gutter. The drains were removed on post operative day five. The soft tissue tumor measured approximately 36x17x10cm and 2.8kg by weight (Figure-6). Final histopathology was reported as a well-encapsulated bosselated fatty mass measuring 36*17*10 cm lesion with mature adipocytes with focal areas of lymphoplasmocytic cells compatible with lipomatosis without any features of malignancy.

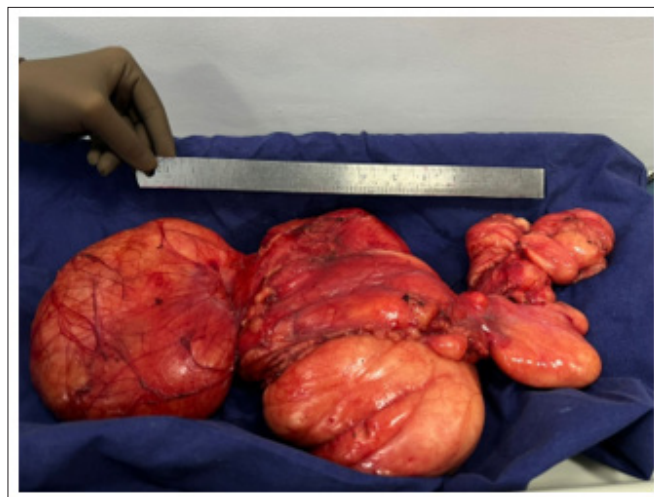


Figure 6: Tumour Excised in Toto Measuring 36x17x10 cm and 2.8 kg by Weight.

Discussion

Lipomas are the most common mesenchymal tumors that are not site specific, they are extremely uncommon when they arise intraabdominally. Lipoma arising from omentum constitutes 3-7% of intra-abdominal tumors arising extraluminally [2]. Intra-abdominal lipomas are generally common in children but rarely present in adult hood [3,4]. We report the first case of intraabdominal lipoma in previously diagnosed breast cancer patients. We also discussed the diagnostic dilemma in such conditions where the spot diagnosis is often distant metastasis or a second primary.

The location and size of the lipoma primarily determines the symptoms. Any case with an intra-abdominal lipoma may present with varied symptoms & signs from early satiety, fullness in the abdomen and discomfort to vomiting, distension due to small intestine's compression or displacement. It is also noted that there is an increase in abdominal circumference without any significant increase in weight. Reduced motility of the stomach or intestines often results in dyspepsia. Omental lipoma is one of the commonest sources of origin of intra-abdominal lipoma which if originating from the infra-colic part, mostly lies in the lower abdominal cavity and primarily causes vague symptoms such as abdominal discomfort and increased abdominal circumference, a supra-colic omental lipoma may present with upper gastrointestinal symptoms like nausea, vomiting or dyspepsia. Although adults typically present with an acute abdomen due to the hemorrhage or torsion of the lipoma, children account for most instances of omental lipoma [5,6]. In our instance, the lipoma located in the lesser sac extended into the retroperitoneal space up to the left renal hilum and retro pancreatic area. Our patient presented with vague complaints like bloatedness and decreased appetite for three months.

Usually, a patient is screened with PET/CT after definitive treatment of breast cancer. Therefore, routine imaging for lipomas was preceded with PET. Indicated radiologic investigations for lipomas include Ultrasonography, CT abdomen or MRI.

The intra-abdominal lipoma shows up as a uniformly echogenic mass that is well-defined on USG imaging [7]. Subsequent examinations are necessary to confirm the extension and its precise interactions with other structures while separating lipoma from other intra-abdominal soft tissue tumors such as leiomyosarcoma, liposarcoma, fibroma, fibrosarcoma, or hemangiopericytoma. Computed tomography (CT) is a highly useful radiological test with the density of the fatty mass with attenuation values less than 20HU which is identical to that of subcutaneous fat, may lead to its diagnosis [8]. The blood supply and its obvious relationships to the surrounding structures can also be identified with the use of CT [9]. It is possible to look for infiltrating margins, increased soft tissue septae, ascites, and involvement of neighboring organs in elderly patients or patients with suspected malignancy.

Lipomas on an FDG-PET have an SUVmax value of 0.8 +/- 0.3 with a range varying from 0.5-1.3 while a liposarcoma on FDG-PET has an SUVmax of more than 2.5 depending upon the grade and differentiation of the tumor [10]. In our case scenario, FDG PET scan reported the tumor to be non FDG avid which guided us to consider the tumor as predominantly benign soft tissue tumor. Prior to making final surgical plans, an image guided biopsy should be carried out. In our case CT-Trucut Biopsy to be sure about the tissue pathology before going ahead with a definitive treatment plan because of the history of Breast Cancer and the relationship of the tumor with many vital internal organs.

Surgical resection is the treatment of choice in the management of intra-abdominal lipoma if possible and easily feasible with minimal complications while torsion or volvulus are rare [11]. Surgery can be either laparoscopic or open for an intra-abdominal lipoma depending upon the size of the tumor and the expertise of the performing surgeon. Observation is also advised if surgical resection causes significant morbidity and general condition of the patient is not feasible. In our case as it was well-encapsulated and did not infiltrate neighboring structures, careful dissection was done to ensure avoiding injury to the surrounding vital structures and as tumor was also extending into the retroperitoneum behind

the pancreas and up to the left renal hilum, care was taken not to injure any vital structures with capsule intact. Care was taken not to breach the capsule as in case of capsule rupture the recurrence rates would be higher even if it's a benign condition. After excision, the recurrence rate is typically less than 5% [3].

Conclusion

We report a rare instance of an intra-abdominal lipoma originating from the lesser sac extending into the retroperitoneal and retro pancreatic areas with no exact source of origin mimicking metastasis in a known case of breast carcinoma post-surgery and chemotherapy leading to a diagnostic dilemma. Even though it is an uncommon etiology, omental lipoma cannot be ruled out as a differential diagnosis if there is an intra-abdominal soft tissue tumor.

Conflicts of Interest

None declared

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