



Lipoma – A Pancreatic Incidentaloma

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Abstract

Pancreatic lipomas are rare non-ductal mesenchymal tumours. With the recent advances in imaging more of these are getting identified and reported even though the actual incidence is still controversial. These are intriguing incidentalomas with their detection completely dependent on the radiologist. We report a case of an incidentaloma of the pancreas which proved to be a classical lipoma on subsequent imaging.

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Case report

Our patient was a 35 year old, female who presented with vague abdominal discomfort. She was multiparous with no significant medical or surgical past history. Her blood work was unremarkable. A routine ultrasound was performed which revealed a doubtful hypoechoic area in the head of pancreas. We performed a triple phase contrast computed tomography which revealed a well defined, circumscribed lesion in the head of pancreas measuring 1.5 X 1.2 cm with a mean attenuation value of (-101 HU). The lesion showed no calcification or sep-

tations. Post contrast images revealed no significant enhancement of the lesion or any differential septae. Rest of the pancreatic parenchyma was unremarkable. Further, we performed an MRI (1.5 tesla) with focus on the pancreas. The study revealed a T1 and T2 hyperintense lesion with similar measurements. The lesion showed complete signal loss on fat suppressed images hence proving the nature of its contents. No communication with the pancreatic duct was noted. The lesion was not causing any compression of the biliary or pancreatic ducts.



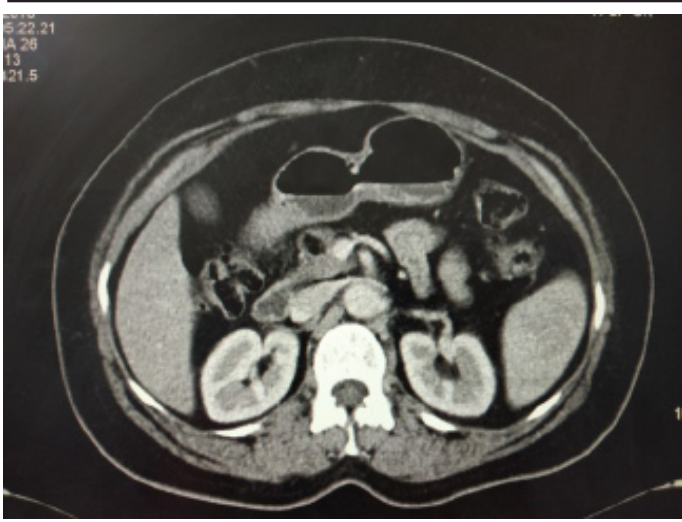


Figure 1: Axial CECT revealing a well defined, encapsulated lesion in the head of pancreas with mean attenuation value of -101 HU. No evidence of any enhancement seen.



Figure 4: Coronal T2W images reveal a T2 hyperintense lesion in head of pancreas following signal of subcutaneous fat with no evidence of compression of the pancreaticobiliary ducts.

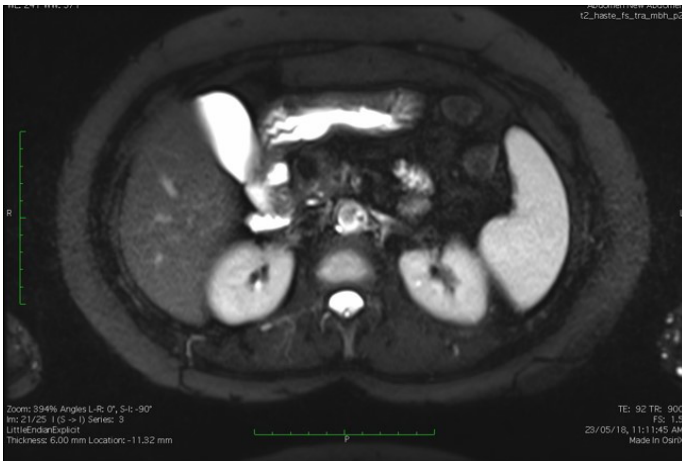


Figure 2: Coronal CECT image showing the same lesion with no evidence of compression of the pancreaticobiliary ducts.



Figure 5: Axial Fat suppressed T1W image revealing complete suppression of the contents of the lesion.

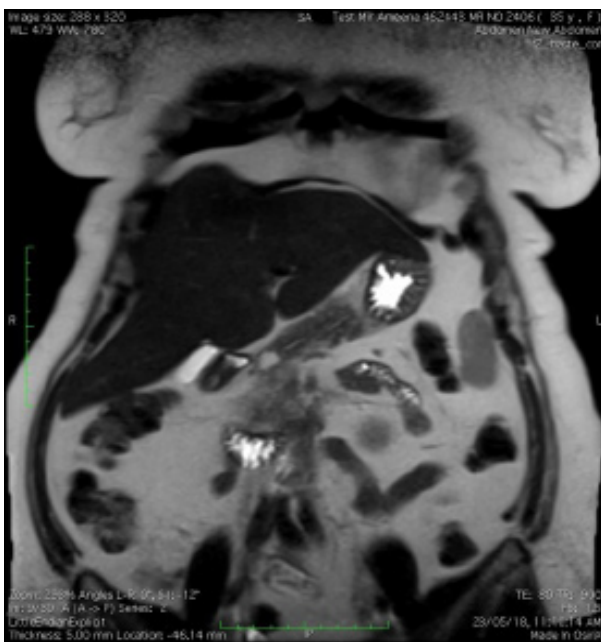


Figure 3: Axial T1W image reveals a T1 hyperintense lesion in head of pancreas following signal of subcutaneous fat.

Discussion

Lipomas originating from the pancreas are very rare, with typical imaging findings precluding the need for any histopathological confirmation [1]. The recognition of such lesions has amplified on account to improvements in technology [2].

The first pancreatic lipoma was reported by Bigard et al in 1989 as a hypochoic mass on the head of the pancreas [1]. Most commonly located in the pancreatic head, it is hypothesized that the fat cells in these lesions originate from the retroperitoneal or mesenteric fat due to clinching between dorsal and ventral pancreatic buds during embryonic fusion [3,4].

Ultrasound of these lesions can have variable appearance as these can be hypo-, iso- or hyperechoic lesions [1]. A lesion with well defined margins and showing posterior acoustic attenuation supports the diagnosis, however these findings are still indeterminate [4]. Hence further imaging is warranted.

Legmann et al described characteristic features of pancreatic lipoma on CT. These include homogeneity and low density of the lesion with CT attenuation values ranging from - 120 HU to -80 HU. The lesions have well-defined borders and are independent of the surrounding parenchyma. Few thin fibrous septa may be seen in some cases. They don't have any direct

contact with the peripancreatic fat tissues. Contrast enhancement is absent [2,3,4].

On MRI, lipomas show high signal on both T1W and T2W images with signal intensity comparable to intra-abdominal and subcutaneous fat tissues. A Fat-suppressed, T1W images show homogeneous suppression of signal intensity. No contrast enhancement on MRI is appreciated [1].

Other lesions which need to be differentiated from the pancreatic lipomas include focal fatty infiltration or pancreatic lipomatosis, lymphangioma, teratoma, lipoma, nerve sheath tumor, haemangioma, haemangioendothelioma, leiomyoma, desmoid tumours, lymphoma, pancreatoblastoma, liposarcoma, fibrous histiocytoma, haemangiopericytoma and neuroectodermal neoplasms [4,1].

Lipomatous pseudohypertrophy of the pancreas is an extremely rare condition of unknown etiology with replacement of pancreatic tissue with mature adipose tissue causing enlargement of the pancreas [4]. A pancreatic lipoma in comparison is an encapsulated mass of mature adipose cells [1].

The only fatty pancreatic lesion warranting surgery is a liposarcoma. Male sex, larger mass, calcification, and thick septa are the increase risk of malignancy. A pancreatic liposarcoma must be suspected in case of rapid growth or features of contrast enhancement [4]. In comparison, pancreatic lipomas exhibit stable morphology and size on follow up with homogenous lack of enhancement. Hence short-term interval observation is essential to prove the benign nature of the lesion [2].

PET scans in pancreatic lipomas have been controversial. Some investigators have found no metabolic activity where as some others showed increased metabolic uptake. Hence this area needs further exploration [3].

Pancreatic lipomas are usually silent lesions. Therapeutic intervention is necessary only when lesions are malignant, very large, or symptomatic as a result of mass effect like bile flow obstruction [4].

Conclusion

The radiologist is the identifier if this benign lesion and with the advent of newer and better imaging modalities it is expected to see more of these lesions in everyday reporting. Differentiating these lesions from other pathologies is quintessential and rarely need histopathological assessment in view of accurate imaging findings. More studies are needed to aid in identification of early liposarcomatous changes in such lesions.

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