

Immature Hepatic Teratoma – An Extremely Rare Entity In An Elderly Woman: A Case Report

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Abstract: A teratoma is a congenital tumour that may be monodermal or polydermal. Teratomas are known to contain hair, teeth, bone, and other tissues. Extragonadal teratomas are rare, and the liver is the least common location to find a teratoma. To the best of our knowledge, most cases of teratoma in the liver that have been documented to date have involved a mature teratoma. However, we present a case involving an immature teratoma. Such tumours typically produce compressive symptoms, although our patient's teratoma was an incidental finding.

Introduction: Teratomas are congenital neoplasms arising from gonadal tissue that have tissues derived from ectodermal, mesodermal and endodermal germ layers. Extragonadal teratomas are extremely rare.

Our case involved an immature teratoma in the liver, which is the rarest type of teratoma.

Methods: Ultrasonography and CT were used.

Results- Ultrasonography revealed a solid, well-defined isoechoic lesion with coarse calcification and an area of fat in the liver. On CT, the lesion was homogeneously hypodense (HU = 25) with dispersed macroscopic fat (HU = -60) and a calcific focus (HU = 300). The lesion showed no enhancement on contrast-enhanced CT.

Conclusions: Immature Hepatic Teratoma.

Fivekey words: Cystic Teratoma; Dermoid Cyst; Hydatid Cyst; Immature Teratoma; Sacrococcygeal Teratoma.

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I. Introduction

Teratomas are congenital neoplasms that arise from gonadal tissue and have tissues derived from ectodermal, mesodermal and endodermal germ layers. Extragonadal teratomas are extremely rare. Teratomas found in the liver account for less than 1% of all neoplasms. Distinctive and pathognomonic radiological characteristics of teratoma contents are helpful for easily identifying and differentiating among mature and immature components. Our case involved an immature teratoma, which is the rarest type of hepatic teratoma, and contributes to the early and easy recognition of such tumours to allow for prompt action.

II. Case Report

A 50-year-old woman was brought to the emergency room with complaints of pain and a lump in the right hypochondrium. On physical examination, her abdomen was tender, and the liver was palpable four fingers below the costal margin. Other examinations produced no significant findings.

III. Investigation

The patient underwent ultrasonography and CT of the abdomen.

IV. Results

On ultrasonography, the patient's liver was enlarged and showed multiple well-defined cystic lesions of variable sizes with a spoke-wheel appearance and internal echoes suggestive of hydatid cysts. In segment VII/VIII, a solid, well-defined isoechoic lesion (50×44 mm²) was noted with coarse calcification and an area of fat pointing towards the teratoma (figure 1). On NCCT of the abdomen, segment VII/VIII had a well-defined, homogeneously hypodense lesion (HU = 25) with dispersed macroscopic fat (HU= -60) and a calcific focus (HU= 300) (figure 2). This lesion was 50×44×38 mm³. On contrast-enhanced CT, no enhancement of the lesion was noted, suggesting that this lesion was an immature teratoma (figure 3).

V. Discussion

Teratomas are common congenital neoplasms. The gonads are the most common location of these tumours, but failure in the migration of primordial cells between the yolk sac and gonads can lead to extragonadal teratomas^{1,2}. Teratomas primarily affect the ovaries or testes but are also found in the anterior mediastinum, retroperitoneum, sacrococcygeal region, CNS and liver, in descending order of frequency³. Liver teratomas mainly affect adult females and are found in the right lobe of the liver¹. Teratomas are embryogenic in origin and consist of tissues from ectodermal, mesodermal and endodermal pathways. In all previously reported cases, liver teratomas have been mature and cystic and have contained a tooth or a large amount of fat. However, in our case, the neoplasm was solid, with macroscopic fat and coarse calcification. A finding of a mass containing fat, fluid and calcification is virtually diagnostic of a teratoma (figure 4). Fat has been reported in 93% of teratomas, and teeth or calcifications have been reported in 56% of these tumours⁴. There are four histological variants of teratomas: mature teratomas, immature teratomas, teratomas with malignant transformation and monodermal teratomas^{3,5}. Occasionally, a teratoma will exhibit malignant transformation. Immature teratomas are uncommon and typically occur within the first two decades of life. Immature teratomas sometimes undergo ‘retroconversion’, a phenomenon in which tissue may appear more mature on imaging and remain stable for long periods of time⁴.

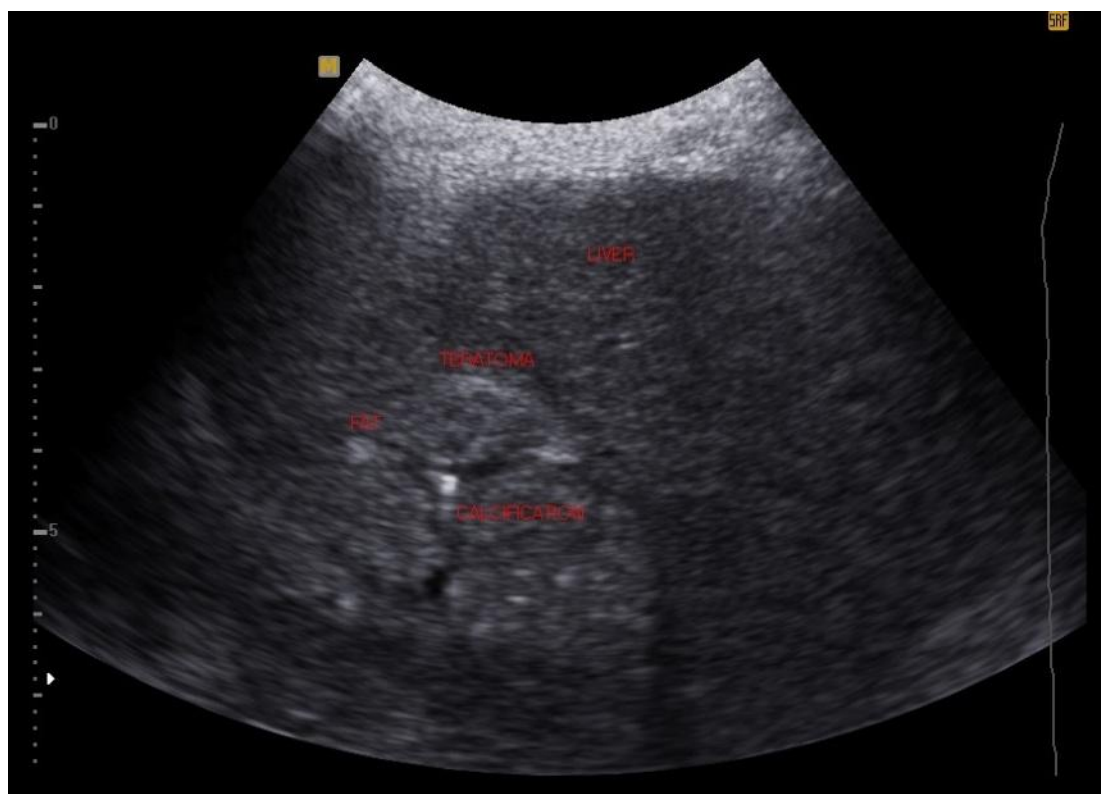
VI. Conclusion

We have presented a rare case involving a primary immature teratoma in the liver of an elderly female (figure 5). The patient was treated for hydatid cysts, and our surgeons have continued to monitor the teratoma during her follow-up. Although CT allows us to definitively diagnose teratomas, histopathological correlations should be considered when making decisions regarding surgical intervention.

References

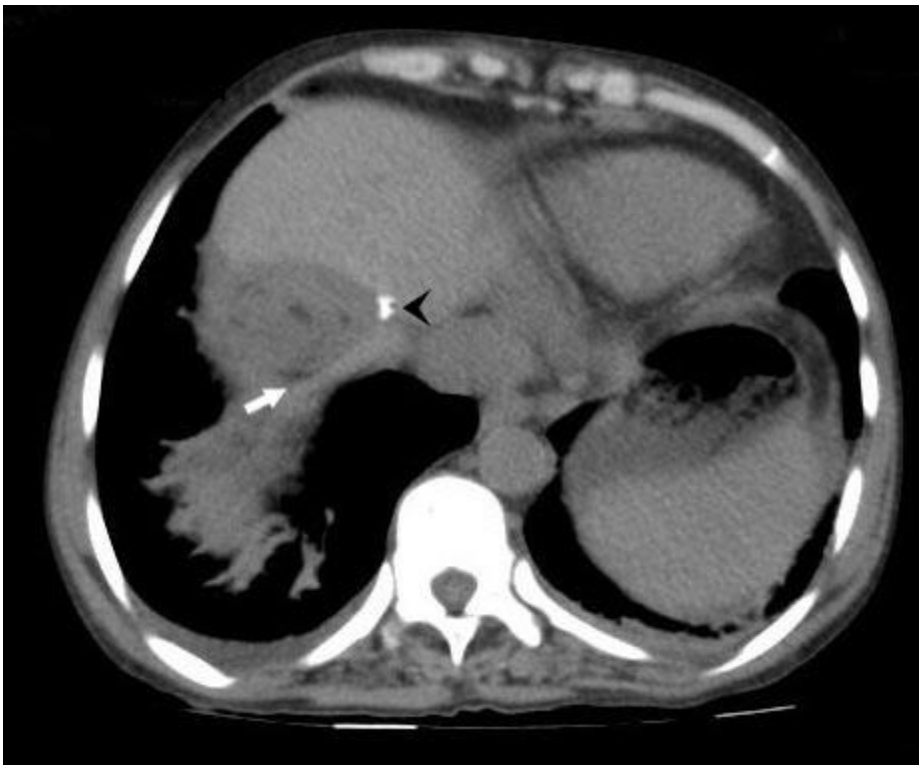
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figure 1



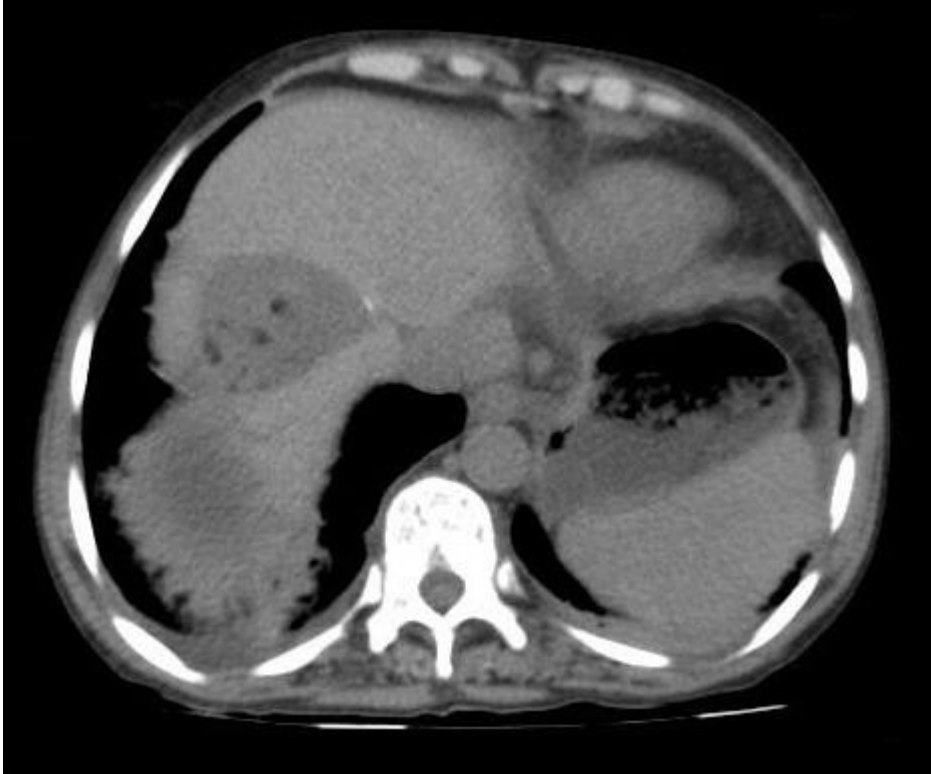
Ultrasound image of liver showing teratoma containing fat & calcification favoring immature type.

figure 2



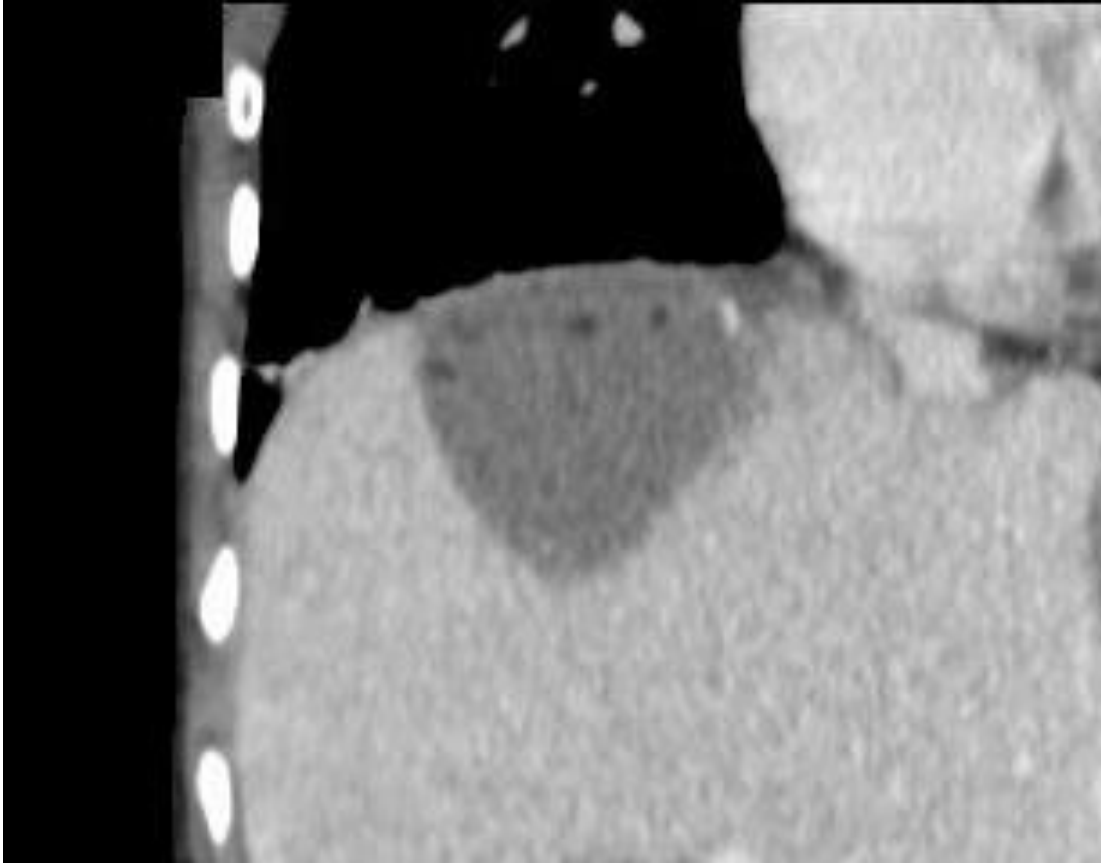
CT Axial Image showing calcification (arrow head) and interspersed areas of macroscopic fat (white arrow).

figure 3



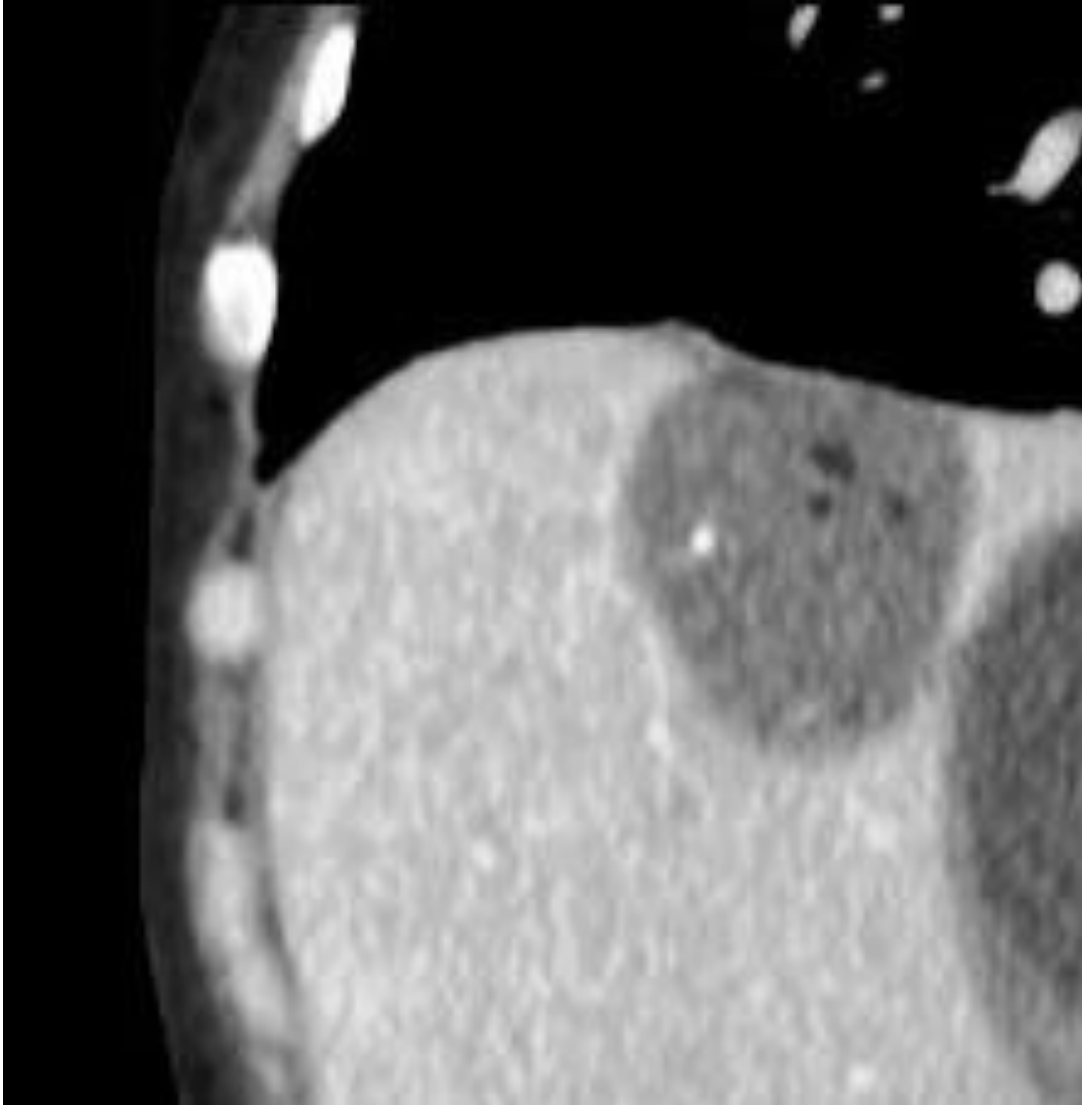
CECT axial image showing hypodense lesion with no enhancement

figure 4



CT coronal image shows lesion with fat and calcified focus in segment VIII.

figure 5



CT Sagittal image showing solid well defined lesion with macroscopic fat and calcified focus suggesting immature teratoma.

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