Answer

Mucinous Cystadenoma of the Liver

In this case, 7 L of thick brownish fluid were aspirated from the cysts under operative ultrasonographic guidance. The liver remained congested even after cyst aspiration. The fluid and cyst wall were sent for cytological analysis and frozen section, but no malignant cells were seen. Therefore, adequate cyst fenestration was performed. The final pathological finding of the cyst wall was mucinous cystadenoma of the liver. The patient was therefore returned to the operating room to undergo right hepatectomy. He developed postoperative ascites, which responded well to conservative management with diet and diuretics. He remained well at 6 months' follow-up.

Mucinous cystadenomas are benign hepatic tumors arising from von Meyenberg complexes.[1] The origin of these lesions is postulated to be proliferation of ectopic embryonic tissues that otherwise aid in development of the adult gallbladder.[1] They occur within the liver parenchyma and less frequently in the extrahepatic bile ducts.[1,2] They are more commonly seen in women and involve the right lobe more frequently than the left lobe (55% vs 29%, respectively).[1,2] The published experience with these lesions is limited to single case reports and small series. Mucinous cystadenomas may be asymptomatic with lesions found incidentally on abdominal imaging studies or may be symptomatic with patients presenting with an upper abdominal mass, discomfort or pain, and anorexia; however, jaundice and cholangitis are rare. These symptoms may be present for several years prior to diagnosis in some patients. Imaging studies such as ultrasonography show a hypoechoic lesion with thickened irregular walls and occasional internal echoes representing debris and wall nodularity.[3] Computed tomography may show a low-attenuated mass that may be unilocular or multilocular or may have septations with a thickened and irregular cyst wall.[3-5] This is in contrast to a simple cyst, which is typically devoid of septations and has imperceptible walls. The differentiation from other septated liver lesions such as hydatid cysts may be difficult, but the presence of daughter cysts in 75% and identification of the pericyst and coarse wall calcification in 50% of hydatid cysts may be helpful in making the diagnosis.[5] Moreover, negative results of *Echinococcus* serology may favor the diagnosis of cystadenoma but do not entirely exclude hydatid disease. Magnetic resonance imaging is helpful in diagnosing uncomplicated cystadenoma with variable signal intensities on both T1- and T2-weighted images depending on solid components, hemorrhage, and protein content.[3]

The ideal treatment is surgical resection. This should be performed whenever possible for definitive histological diagnosis and also to avoid future malignant transformation of the cyst lining, which has been described in as many as 15% of patients.[6,7] The long-term outcome is usually good after complete resection.

Other forms of described surgical treatment include aspiration, enucleation, and partial excision, but this is associated with high recurrence and rapid accumulation of the fluid and reappearance of symptoms. For a simple cyst encountered during open or laparoscopic surgery, aspiration with measurement of the CA19-9 level and cyst wall excision for histopathological analysis are adequate. However, for multiloculated, multiseptated, or vascularized-wall cysts, surgical resection is advocated.

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