Diagnostic Images

Pancreatic and liver disease in an alcoholic

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The Patient

Male, age 58 years. Known alcoholic with chronic pancreatitis. Recent deterioration with abdominal swelling, falling haemoglobin and serum albumin.

Figure 1 Section through the dome of the right hemidiaphragm (white arrow) showing a small right pleural effusion (black arrow). (A—descending aorta; small white arrow points to oesophagus).

Figure 2 The same section at lung settings. The posterior band (black arrow) indicates fluid in the greater fissure (Dia—diaphragm).

Figure 3 Section through the uppermost part of the abdomen. The top of the liver (L), spleen (S) and the stomach (St) are shown surrounded by ascites (Asc) (A—aorta). The attenuation values of the liver are markedly diminished appearing 'darker' than the spleen.

Normally the liver has slightly higher attenuation than the spleen.

The appearances of diffuse low attenuation of the liver with the portal and hepatic veins showing as light areas against a dark background is virtually pathognomonic of a 'fatty' liver.

Figure 4 There is marked pancreatic calcification (arrows) indicating chronic calcific pancreatitis. (K—kidneys, S—spleen, Asc—ascities, A—aorta, D—duodenum).

Comment

While alcoholism is commonly associated with liver disease and with chronic pancreatitis, the combination is relatively uncommon particularly with such gross abnormalities. Clinical deterioration in either condition especially if associated with ascites will raise the suspicion of supervening malignancy. With computed tomography (CT) a positive diagnosis of fatty liver and calcific pancreatitis can be made virtually excluding malignancy in the liver and pancreas. In the present case it was not clear prior to examination of the ascitic fluid for its amylase content whether the ascites was hepatic or pancreatic in origin (Bender & Ockner, 1983).

Fatty liver is now in fact a common diagnosis because of sonography and CT, usually presenting because of abnormal liver function tests or liver enlargement. The common associations are with alcoholism, obesity and diabetes and it is also seen in Cushing's disease.

Fatty infiltration may only affect part of the liver but should not be mistaken for a tumour because there is no vascular displacement.

Mild fatty infiltration can also be diagnosed by CT but the actual attenuation values of the liver and spleen must be compared. Normally liver is approximately ± 60 H.U. and the spleen ± 50 H.U. (Hounsfield units) and in mild fatty infiltration these values are reversed eg. liver 30–40 H.U.; spleen 50 H.U.

Reference

- BENDER, M.D. & OCKNER, R.K. (1983). In *Gastrointestinal Disease: Pathophysiology, diagnosis management*. 3rd ed., Vol. 1. Sleisenger, M.H. & Fordtran, J.S. (eds.) W.B. Saunders: Philadelphia.