Diagnostic Images

A liver mass

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The patient

A 56 year old diabetic man presented with pain in the right lower chest for 2 months. Chest radiograph showed linear collapse at the right lower lobe which subsequently cleared. One month later he was found to have anaemia, loss of weight, a palpable liver and raised plasma gamma glutamyl transpeptidase and alkaline phosphatase and an erythrocyte sedimentation rate of 100 mm/h. Chest X-ray, ultrasound and computed tomographic (CT) examinations were performed.

Comment

The raised right hemidiaphragm has a continuous, unbroken, smooth contour unlike the weakness of the central tendon that produces a localized upward bulge.

A further point of note is the absence of a pleural effusion or abnormality in the overlying lung as commonly associated with a subphrenic or intrahepatic abscess.

Figure 1 The right hemidiaphragm is markedly raised with a smooth contour from medial to lateral. No overlying lung disease or pleural effusion visible suggesting an intrahepatic mass.

Figure 2 Sonography of the liver. There is a large moderately echogenic area (arrows) relatively well defined in the posterior aspect of the right lobe of the liver associated with marked liver enlargement. (RK – right kidney, D – diaphragm).

Figure 3 CT scan shows a large ill defined area of low attenuation in the right lobe of the liver (arrows). Appearance would do for localized fatty infiltration or a tumour. (L – liver, Sp – spleen, A – aorta, St – stomach)

Figure 4 Following contrast enhancement a large septated lesion is shown in the right lobe with ill defined margins. Small nodules are also present in the quadrate lobe, compressed portal vein branches noted (arrow). (Q – quadrate lobe).

Figure 5 Multiple small nodules are present in more caudal sections in the right lobe with slight bulging of the liver margin. (LK – left kidney, A – aorta, I – Inferior vena cava, G – gallbladder, arrow – right kidney).

The raised hemidiaphragm requires the exclusion of a mass in the liver by sonography and/or computed tomography.

A large low attenuation lesion in the liver with multiple small satellite lesions is usually caused by metastases but liver abscesses and a hepatoma should be excluded by percutaneous aspiration/cytology, unless a primary cancer is known or subsequently found. The plain scan and sonography could also represent localized fatty infiltration but can be excluded on contrast enhancement by absent undistorted portal veins within the lesion and compression of adjacent veins.

The colon is the commonest site of a primary carcinoma producing a large metastasis in the liver as was found in this case on a subsequent barium enema.

Reference

Wallace, S. & Chuang, V.P. Liver tumours: diagnosis and management. In Herlinger H., Lunderquist, A. and Wallace, S. (eds) *Clinical Radiology of the Liver* Marcel Dekker, New York, Basel, 1983, pp. 715–861.