Diagnostic Images

Leaking aortic aneurysm

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The patient

A man aged 50 presented with severe abdominal and back pain on the right side from L1 radiating to the sacroiliac joints and pelvis, of 4 months duration. The pain was worse at night. There was marked weight loss and anorexia.

Figure 1 Large right retroperitoneal mass, displacing kidney, adjacent to markedly dilated aorta with a calcified wall.

Figure 2 The retroperitoneal mass is of mixed attenuation with minimal calcific spots, very low 'fluid density' streaks and an area of fluid density below the right kidney. There is also a small fluid density collection anterior to the left psoas.

Figure 3 Contrast enhanced scan showing small fluid collection between the right kidney and spine adjacent to the right psoas.

Figure 4 Contrast enhanced scan with no enhancement of the mass apart from its margin. The aortic lumen is irregular with a surrounding low density area just inside the calcified aortic wall.

Figure 5 A section more caudally shows the mass increasing in size, with a well defined lower density area at the periphery indicating a small fluid collection. There is intense enhancement of the mesentery suggesting an inflammatory response and the inferior vena cava is markedly deformed by the retroperitoneal mass.

Figure 6 The fluid collections have tracked down to the anterior aspect of the iliocaval space. Sa = sacrum; c = colon.

Figure 7 The L3 vertebra showed an irregular low attenuation area towards the left antero-lateral aspect.

Figure 8 Tip of very fine biopsy needle in retroperitoneal mass.

Comment

A mixed attenuation retroperitoneal mass with flecks of calcification and small collections of adjacent fluid suggests the possibility of a retroperitoneal sarcoma. The large aorta with evidence of internal thrombus or atheroma indicated an aortic aneurysm and therefore also the possibility of a leaking aneurysm. From the length of the history a haematoma would be well organised and should yield fibrous tissue whereas a retroperitoneal sarcoma would show malignant tissue. The biopsy specimen produced fibrous tissue and the patient was referred for vascular surgery. The low attenuation area suggesting an osteolytic lesion in the vertebral body of L3 was a red herring, partly due to an artefact and partly from disc protrusion, the section being taken near to the margin of the vertebral body.