Diagnostic Images

Bowel obstruction

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The patient

A male aged 72 presented with several weeks of abdominal colic and tiredness. On investigation, he was found to have an iron deficiency anaemia, and plain film revealed high small bowel obstruction.

Investigations

Small bowel enema, sonography and computed tomography.

Comment

Small bowel obstruction can be caused by an intraluminal 'bolus' such as a phytobezoar, a gallstone or a large polyp. Other causes include: intramural tumours; granulomas, hernias or extrinsic compression from bands; and adhesions. Most patients with acute obstruction will not be investigated radiologically other than having plain films. In chronic obstruction, knowing the site and possible cause of the obstruction can be valuable in determining the surgical approach and prognosis, for instance, in Crohn's disease, adhesions and intramural tumours.

In this case, the signs indicated an intramural tumour causing a stricture in the upper small bowel suggesting a metastasis, adenocarcinoma or carcinoid, the last being the most common in the absence of a known primary as occurred in this case.

Computed tomography (CT) can be an aid in distinguishing the type of metastasis. If the liver lesions show a delayed blush, it would greatly favour carcinoid, but was not demonstrated in this patient. Sonography delineated the metastases much more clearly than CT.

Figure 1 (a) Small bowel enema shows the markedly dilated small bowel (5.5 cm) with an abrupt change in calibre (arrow). At the proximal end of the obstructing lesion, irregular filling defects (b and c) indicate the presence of intramural tumour as shown on prone films (small arrows), and a constricting segment is also demonstrated (long arrow).

Figure 2 On sonography there are multiple round lesions having an echogenic centre and surrounding anechoic halo, appearances in keeping with metastases (small arrows). PV = portal vein, long arrow.

Figure 3 On CT, the well-demarcated round lesions are of lower attenuation than the surrounding non-enhanced liver and show only minimal central enhancement (arrows). On liver biopsy, these were diagnosed as carcinoid.