Diagnostic Images

Extraluminal bowel gas

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The patient

A 76 year old woman had a left nephrectomy in 1961. She presented with polyuria, polydipsia for one month and diarrhoea for one week. She was found to have diabetic ketoacidosis. After two days treatment there was considerable improvement but an abscess was noted in the region of the nephrectomy scar and percutaneous aspiration yielded thick green pus. One week later she became pyrexial.

Figure 1 Sonography of left flank shows an irregular, mixed hypoechoic mass with irregular margins and moderate through transmission; features in keeping with an abscess.

Figure 2 Sonography in the left hypochondrium. The spleen has irregular, internal hypoechoic areas with an intact capsule and no surrounding fluid, indicating an intrasplenic abscess in this patient.

Figure 3 Plain film of the abdomen showed a vague left sided mass with multiple tiny gas bubbles but no recognizable anatomical pattern. These appearances suggest extraluminal interstitial gas (arrow).

Figure 4 On barium enema, the gas shadows lie lateral to the colon, confirming interstitial, extraluminal gas.

Comment

Infections are a common complication in patients with diabetes mellitus, not infrequently associated with the production of gas. Emphysematous cholecystitis and emphysematous cystitis are well known examples. The gas can be in the wall of the organ or form within the lumen. Emphysematous gastritis has also been described.

Gas within the gallbladder or in its wall and gas in the urinary bladder wall or pelvicalyceal system is easily recognized but recognition of abdominal extraluminal gas is considerably more difficult. The multiple small gas collections forming a soap bubble appearance is often misinterpreted. In this case sonography was of considerable assistance in showing the features of a flank abscess and splenic abscesses and in guiding the needle for percutaneous aspiration while the barium enema unequivocally showed the small gas collections outside the colon in the left flank.