

Looking at colonic diverticular disease

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This clinic is designed to help you to see what the radiologist sees. It is not intended to be a comprehensive discussion of a given condition, but a guide to the radiological features. What do these images tell you?

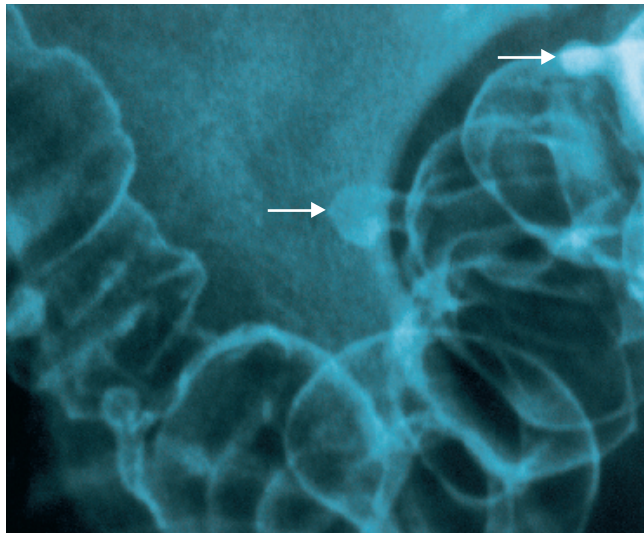


Figure 1. Barium enema. Note the barium-filled diverticula (arrows).

Case presentation

The following images are from different patients. Some patients were asymptomatic; others were suffering from lower abdominal pain with or without fever.

Modalities

Both barium enema examination and CT scanning can detect the presence of diverticula. A barium enema is likely to show diverticula more clearly than CT scanning and can detect other mucosal abnormalities. CT is usually better for detecting complications associated with diverticular disease.

Preparation

Barium enema

Preparation of the patient usually commences about 36 hours before the procedure and includes cathartics, a clear fluid diet and, finally, fasting.

CT of the abdomen and pelvis

The patient fasts for four hours before the procedure. Oral contrast is usually given.

Technique

Barium enema

A double-contrast barium enema is performed – that is, with instillation of both barium and air as contrast.

CT SCAN

Both oral and intravenous contrast media are generally used.

Classification and radiological signs

Diverticulosis (uncomplicated diverticula)

Barium enema

Uncomplicated diverticula:

- are seen as small V-shaped or teardrop protrusions of varying size arising from the antimesenteric side of the large bowel (Figure 1)
- may be partially barium filled, with a fluid level.

CT scan

Uncomplicated diverticula are:

- seen as thin-walled pockets of gas (which appears black) outside the bowel wall (Figure 2).

Diverticulitis (complicated diverticula)

Barium enema

Features of diverticulitis include:

- thickening and distortion of the folds of the colon
- luminal narrowing
- extraluminal contrast (appears white).

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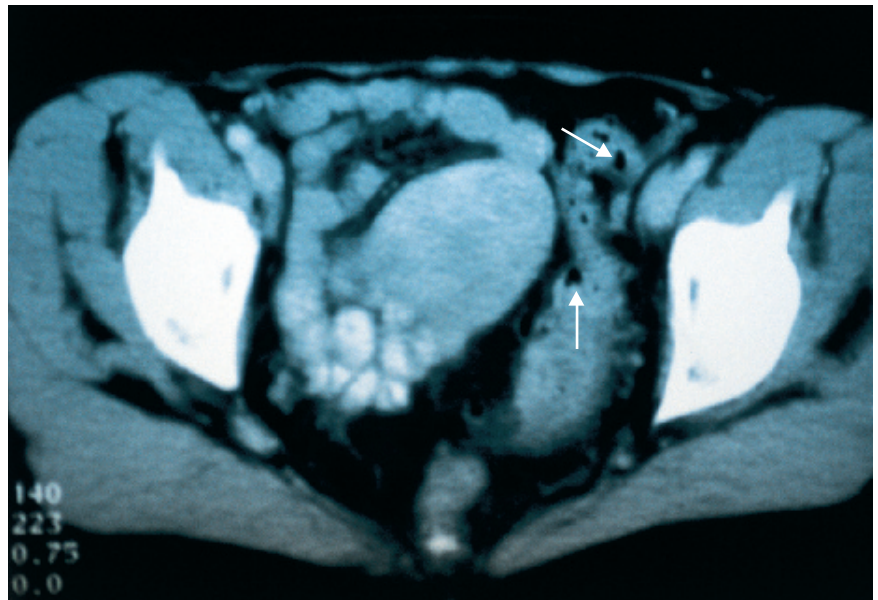


Figure 2. CT scan. The diverticula are seen as gas-filled pockets (arrows) outside the bowel lumen.

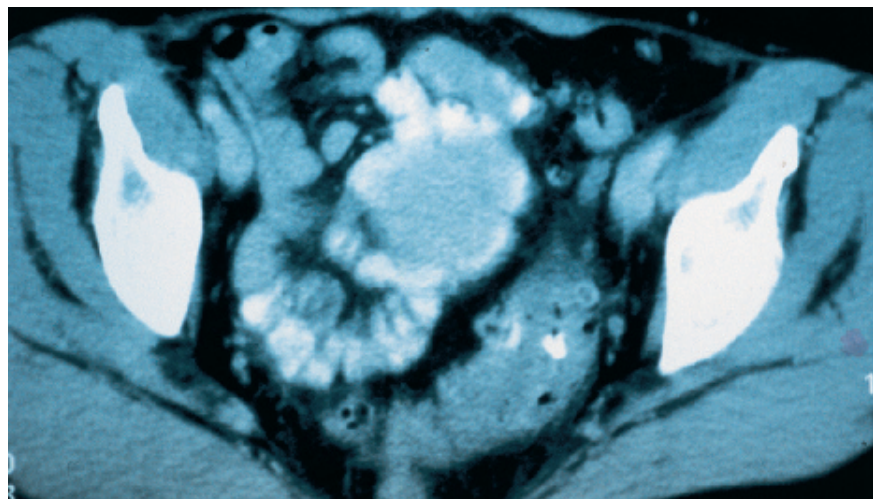


Figure 3. CT scan. Note the thick-walled inflamed bowel as a result of diverticulitis.

CT scan

Complications of the inflammation include:

- thick-walled inflamed bowel (Figure 3)
- abscess/fluid collection
- fistulas.

Key points

CT is more appropriate if the suspected diagnosis is diverticulitis because it will

show complications more clearly, and will also show other pathology. Furthermore, when the bowel is inflamed, a double-contrast barium enema poses the risk of perforation or rupture of the bowel.

Barium enema is more appropriate if a mucosal lesion is suspected or to confirm the presence of diverticula after symptoms have settled. **MT**