Stercoral perforation due to a faecaloma

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Section: Abdominal imaging
Area of Interest: Abdomen
Procedure: Education
Technique: Conventional radiography
Technique: CT
Special Focus: Obstruction / Occlusion
Case Type: Clinical Cases
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Patient: 85 years, female

Clinical History:

85-year-old lady presenting with a 2-day history of worsening abdominal pain on a background of longstanding constipation. She had maximal pain towards lower pelvis on clinical assessment and reported not having a bowel motion for 6 days. The patient was febrile with raised inflammatory markers on admission.

Imaging Findings:

Initial abdominal radiograph (Figure 1) demonstrates widespread gaseous distention of the large bowel interspersed with faecal content. There is added focal faecal loading at the recto-sigmoid colon. Subsequent CT examination (Figures 2 through to 4) demonstrate a large faecaloma (seen as a rounded mass-like region of faecal impaction) with associated mural enhancement and thickening. This is complicated by a perforation shown by a focal region of extra-luminal air corresponding to the antero-inferior anti-mesenteric border of the recto-sigmoid colon (arrowed on Figures 2b, c and 4a). Lamellar calcification which can also be present is, however, not seen in this case. There is no evidence of an obstructing mass lesion distally, any diverticulae or presence of shouldering.

Discussion:

These images show classical features of a faecaloma complicated by a stercoral perforation. A stercoral perforation is defined as perforation of the bowel due to pressure necrosis with subsequent erosion from a faecal mass [1]. This essentially results in varying degrees from faecal peritonitis. While it is uncommon, it can be a life-threatening complication of an unresolved faecal impaction. Patient may present with an acute abdomen although due to some perforations being focal, fulminant guarding may not always be present. The condition usually occurs in the elderly and as with this case patients have a longstanding history of constipation [7]. A key component in a stercoral perforation is formation of a faecaloma which is a localised hard, inspissated faecal mass which is typically of a diameter equal to or greater than that of the colonic lumen. While a faecaloma can occur anywhere along the large bowel, it tends to favour the recto-sigmoid region due to increased pressure from faecal build up in this region. The postulated pathogenesis of a stercoral perforation is a rise in intraluminal pressure which ultimately becomes greater than the capillary perfusion pressure within the bowel wall. This then results in focal ischaemia, necrosis, ulceration, and can finally lead to a perforation [1-3]. Stercoral perforations are almost invariably free and open, although as shown in this case, the extracolonic air can be plugged by a faecaloma to some extent. Then the extra colonic gas distribution tends to be localised. CT examination is the imaging modality of choice [4, 7]. On imaging assessment, is it important to rule out an underlying colonic mass lesion or changes secondary to a diverticulitis (both of which...
Stercoral perforations are unlikely to resolve spontaneously or with conservative management and can carry mortality rates approaching 35% [8]. Resection of the involved colon and proximal colostomy is the treatment of choice in most situations [3, 5-6, 9]. Colonic disimpaction and identification of additional stercoral ulcers intra-operatively may aid in avoiding a second perforation or a further complication.

**Differential Diagnosis List:** Stercoral perforation from a faecaloma, Gross faecal impaction with intracystic air, Perforation from an occult rectal malignancy with secondary faecal loading, Perforation from an occult inflammed diverticulum with secondary faecal loading

**Final Diagnosis:** Stercoral perforation from a faecaloma

**References:**

Description: Abdominal radiograph showing air mixed faecal content filled dilatation of large bowel with no definite evidence of a perforation. 
Origin: SCGH, Perth
Description: Axial CT image showing a large faecal content filled intraluminal mass if surrounding mural enhancement consistent with a faecaloma Origin: SCGH, Perth
Description: Axial CT image showing free extracolic air (arrowed) adjacent to and distal to the faecaloma with no associated mass lesion. Origin: SCGH, Perth
Description: Axial CT image showing free air tract extending distally antero-inferior to the recto-sigmoid colon suggesting the possible site of stercoral perforation. Origin: SCGH, Perth.
Figure 3

Description: Coronal CT image showing both the faecaloma within the sigmoid colon with a crescentic extra colonic air containing tract inferiorly. Origin: SCGh, Perth
Description: Sagittal CT image showing a large sigmoid colonic faecaloma with extracolonic air locules inferiorly (arrowed) Origin: SCGH, Perth
Description: Sagittal CT image showing a large sigmoid colonic faecaloma with no distal obstructive mass lesion Origin: SCGH, Perth