

RIGHT-SIDED PERFORATED ASCENDING COLONIC DIVERTICULUM MIMICKING ACUTE APPENDICITIS

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Case report

ABSTRACT

Perforation of the colonic diverticulum is a common reason for emergency laparotomy, especially in older people but is rare in the

younger population. While perforation of the sigmoid diverticulum is very common, perforation of the ascending colonic diverticulum is a very rare event. For this reason, the diverticulitis is usually discovered unexpectedly

at surgery for suspected appendicitis.

Key words: Right-sided diverticulitis, perforation, laparotomy, surgery.

1. INTRODUCTION

Right-sided colonic diverticulitis is considered to be a rare condition (1). Most cases of colon diverticulosis is related to the sigmoid colon (2) and it is clear that the correct preoperative diagnosis of right-sided colonic diverticulitis has rarely been made. In clinical practice, one of the great mimics of acute appendicitis has been right-sided colonic diverticulitis (3). In fact, the diverticulitis with its complications due to the inflammation and perforation is usually discovered unexpectedly at surgery for suspected appendicitis (4). We present a case of a right-sided diverticular disease complicated by perforation of ascending colon diverticula in a caucasian middle-aged woman successfully treated surgically.

2. CASE REPORT

A 44-year-old white woman was admitted to the Emergency Department with complaints of right lower abdominal pain, nausea and vomiting for 2 days. Significant findings included local rebound tenderness and palpable fullness over the ileocecal region, leukocytosis, low-grade fever, and ultrasonographic evidence of acute appendicitis. The blood results were as follows: pH was xx with a base excess of XX, so-

dium was 142 mmol/L; potassium was 3.1 mmol/L; haemoglobin was 129 g/dL; white cell count was $14.8 \times 10^9/L$, liver function were normal.

She was previously healthy and had no significant past medical history. A provisional diagnosis of acute appendicitis was made. At operation, through a Mc Burney incision, the appendix was found to be normal but a 3 cm gangrenous and perforated ascending colonic diverticulum was found. The patient underwent an appendectomy with isolated diverticulectomy and recovered uneventfully.

3. DISCUSSION

Diverticular disease is a common disorder in Western countries (5). Diverticula can occur throughout the colon but are most common near the end of the left colon referred to as the sigmoid colon in Western countries. On the other hand, in Asia the diverticula occur mostly on the right side of the colon (5). The etiology of diverticular disease is multifactorial and not completely understood but it is now known that low dietary fiber intake, cigarette smoking, alcohol intake, corticosteroids, altered collagen structure in the bowel, increased acetylcholine activity in the sigmoid colon, and aging may be risk factors

(6, 7). Approximately 75% of patients remain symptom-free during their lifetime. The remaining 25% of patients develop complications in the form of infection (diverticulitis), rectal bleeding, constipation, diarrhea, abdominal cramps, and even colonic obstruction (7). Diverticula localized to the right colon occur at a rate of 6.6 to 14% (10). On the basis of etiologic and pathologic features, two types of diverticula have been described in the right colon: multiple diverticula and solitary diverticulum of the cecum (8, 10).

The most common clinical presentation of right-sided colonic diverticula is an acute inflammatory complication which is difficult to distinguish from other causes of right iliac fossa pain (9). Preoperative diagnosis of appendicitis is almost always made in these patients (10). Other pathology may mimic right side diverticulitis including colonic malignancy, inflammatory Crohn's mass, perforated foreign body reaction or ileocaecal tuberculosis.

Ultrasound has been evaluated in the diagnosis of right-sided diverticulitis and demonstrated a sensitivity of 91.3%, a specificity of 99.8% and overall accuracy of 99.5% in the diagnosis of right-sided diverticulitis (11). (Figure 1). However, al-

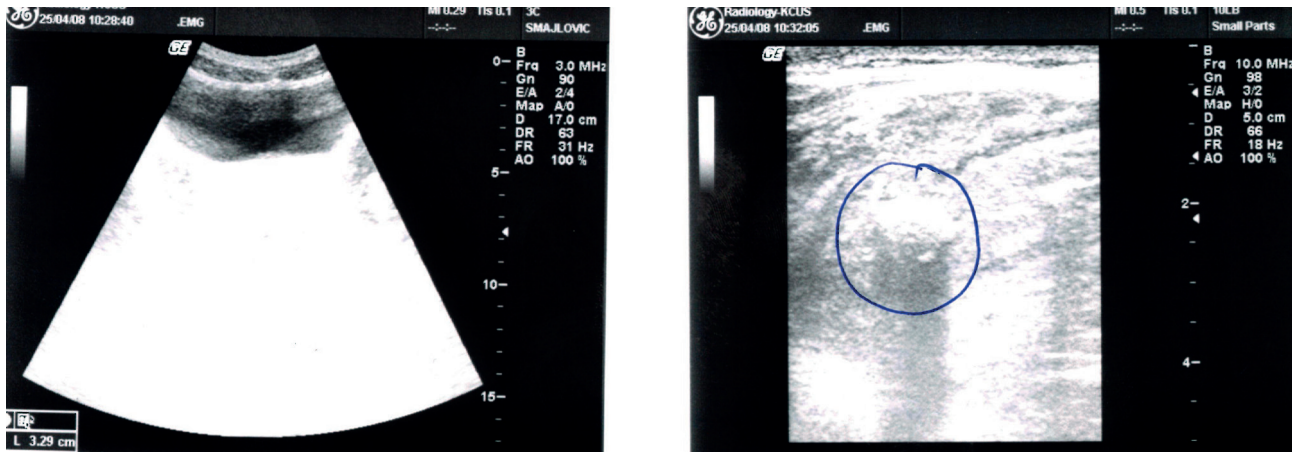


Figure 1. Ultrasound examination of right-sided perforated ascending colonic diverticulum Mimicking acute appendicitis

though ultrasound is non-invasive and widely available, operator dependency may limit its accuracy, especially in Western countries where experience of caecal and ascending diverticulitis is limited. In our case, because of our strong clinical assumption that our patient had acute appendicitis no further pre-operative imaging studies were performed. Surgical resection varies from isolated diverticulectomy, ileocaecal resection and right hemicolectomy (12). In our case, isolated diverticulectomy with appendectomy was the method of choice of surgical treatment with good outcome.

In conclusion, preoperative diagnosis of right-sided colonic diverticulitis is important in the timely evaluation of treatment modalities, but not always possible. Although ultrasound is non-invasive and widely available, operator dependency may limit its accuracy, especially in Western countries where experience of caecal and ascending diverticu-

litis is limited. During the surgical procedure, if the diagnosis of acute appendicitis is in doubt, further exploration should be performed. In most cases, when it excludes other possible pathologies, isolated diverticulectomy is adequate treatment.

Conflict of interest: none declared.

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