

Use of pigtail catheter drainage and antibiotic treatment for giant colonic diverticulum

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Abstract

Here, we report a case of a 77-year old woman presenting with giant colonic diverticulum that was treated using a pigtail catheter and antibiotics. Acute surgery was deemed to high risk because of the patient's' co-morbidity. A computed tomography showed a round air filled cyst 18 x 14.5 cm with a luminal orifice connected to the sigmoid colon. The patient was discharged after 20 days. No histopathology samples were acquired.

Keywords

colonic diverticulum; giant colonic diverticulum; drainage; catheterization

Abbreviations

GCD: Giant colonic diverticulum

Introduction

Giant colonic diverticulum (GCD) is an uncommon manifestation of colonic diverticular disease and currently there are less than 150 cases reported [1]. It was first described by Bonvin and Bonte 1946 [2] and later described in English literature 1953 by Hughes and Green that reported it as a case of "Solitary air cyst" [3]. More than 90% of the colonic diverticula are found in the sigmoid colon, which is the most common region for GCD [4]. The criteria for GCD are that the diverticulum should have a diameter of at least 4 cm and arise from the antimesenteric border of the colon [5]. The biggest GCD was measured 33 cm in total diameters [6] and the lowest age presented with a GCD was a neonatal child [7]. Studies have shown that approximate 15-25% of everyone that suffers from diverticulosis will later develop diverticulitis in life [8]. Every year 300,000 persons are hospitalized in USA because of diverticulitis and a total of 1.5 million of days are lost because of the in-patient care [9].

Case Presentation

A 77-year old Caucasian Swedish female presented with a history of melena and hematochezia in the emergency department. The registered vital parameters in the emergency department were not critical; temperature of 37.1 Celsius, heart rate of 76 beats per minute, blood pressure of 110 systolic/ 70 diastolic, saturation of 97 % and respiratory rate of 20 breaths per minute.

From the abdominal status examination there were a noticeable tympanic abdominal distension

and diffuse abdominal pain during palpation in the left fossa region. Lab results showed an increased value for serum C-reactive protein of 250 milligram/liter, hemoglobin of 103 gram/liter and a blood leukocyte plasma concentration of 11×10^9 unit/liter. A computer tomography showed a giant colon diverticulum that originated from the sigmoid colon that measured 18 x 14.5 cm with fat tissue irritation around it (Figure 1A, 1B). The giant diverticulum was filled with air and a flap-valve effect was noted at the opening of the colon. The patient was given Piperacillin/tazobactam antibiotics intravenous and given nil by mouth ordination.

Because of the patient's advanced age and high comorbidity with a long history of cortisone usage for rheumatic disease, atrial fibrillation and previous myocardial infarct that resulted in anticoagulant treatment* she was deemed as a high risk patient for surgery.

*Anticoagulant treatment after acute myocardial infarct: Aspirin (75 milligram) and Clopidogrel (75 milligram) once a day.

Instead a pigtail catheter was inserted using radiologic guidance to drain the giant diverticulitis. After 10 days of pigtail catheter drainage and antibiotic treatment the diverticulitis shrunk to 11.5 x 10 cm. The post procedure of pigtail catheter drainage and conservative antibiotic treatment was uneventful, and she was discharged in 20 days without any further complications. The follow-up was done in another county council hospital.

Discussion

GCD may be asymptomatic but here our patient presented with a history of combined melena and hematochezia symptoms. Radiological investigations for GCD are most accurately evaluated with contrast CT [12] although they can also be seen on a plain abdominal radiograph.

There are three various histological patterns of GCD that have been described in literature [13].

Type 1; Pseudo GCD is a diverticulum that consists of granulation and fibrotic tissue with remnants of mucosal and submucosal layers (22%).

Type 2; Inflammatory GCD is a diverticulum from a focal sub serosal perforation that leads to an abscess cavity that has communication with the colonic lumen (60%).

Type 3; True GCD is a diverticulum that possess all the layers of colonic wall; Serosa, muscularis, submucosa and mucosa (12%).

Surgery is the recommended treatment for symptomatic non complicated GCD for low-risk patient [14]. The most common surgical treatment for GCD is a sigmoid colectomy with end-to-end anastomosis [5]. Elderly and high risk patients can be treated conservatively with monitoring of vital condition, bowel rest, intravenous fluids, antibiotic treatment and pain management.

Conclusion

The consenting treatment in this elderly high risk patient was successful and the patient was discharged in 20 days. Acute surgery might be of lower benefit for the high risk patient and increased risk for mortality. The risk for diverticulitis to develop into a carcinoma is 2% [15] but for the elderly patient that risk is minimal as it takes years to develop a carcinoma.

Figures

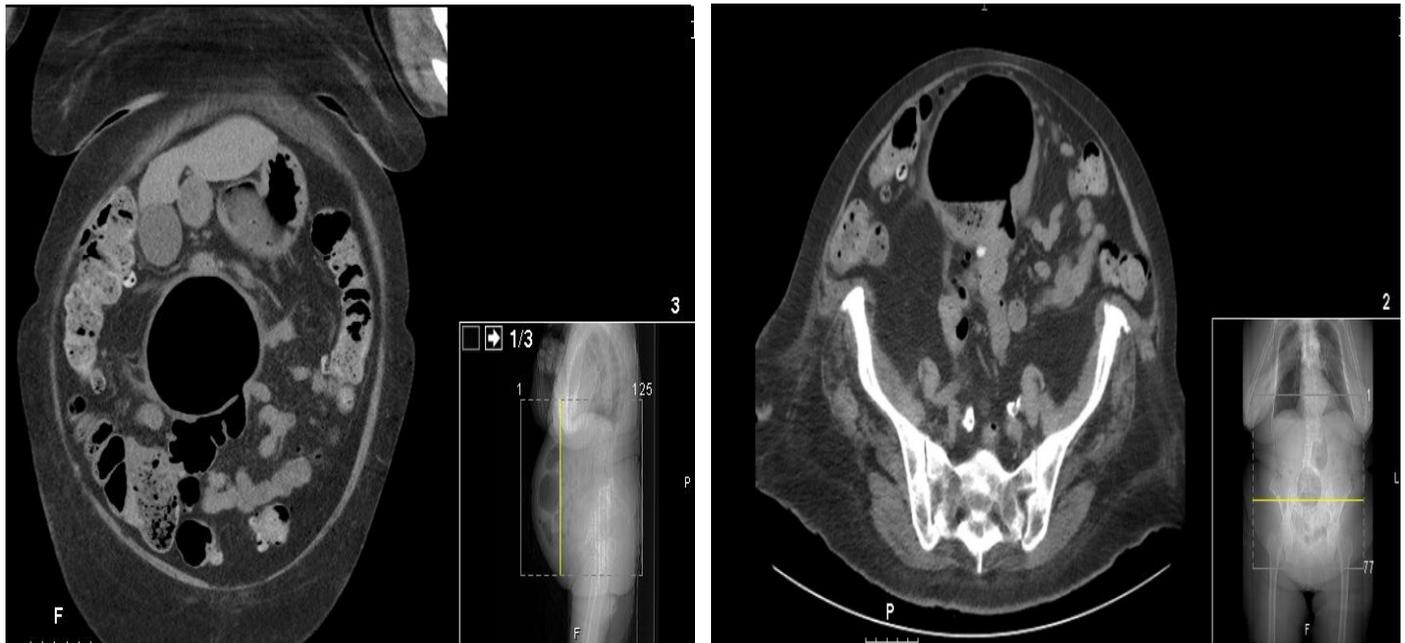


Figure 1: Computed tomography of giant diverticulum measuring 18 x 14.5 cm with a luminal orifice connected to the sigmoid colon in coronal (A) and transverse plane (B).

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