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CASE REPORT

SOLITARY CECUM DIVERTICULITIS – A SURPRISING DIAGNOSIS

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Abstract

Cecum diverticulosis is a benign, rare and generally asymptomatic disease that can manifest with acute diverticulitis or bleeding, thus complicating the differential diagnosis of the right iliac fossa pathology. The optimal management of this disease does not have a well-established treatment plan, as it may vary in some centers from conservative treatment, consisting of only antibiotics, to segmental colectomy or even right hemicolectomy. We present the case of a 45-year-old patient, prior diagnosed with chronic pain in the right iliac fossa after appendectomy, who was diagnosed with a single cecum diverticulum.

Key words: cecum diverticulosis, appendectomy, right iliac fossa.

Résumé

La diverticulite unique du caecum – un diagnostic surprenant

La diverticulose du caecum est une maladie bénigne, rare et généralement asymptomatique qui peut se manifester par une diverticulite aiguë ou des complications hémorragiques, compliquant ainsi le diagnostic différentiel de la pathologie de la fosse iliaque droite. La prise en charge optimale de cette maladie ne fait pas l'objet d'un plan de traitement bien établi, car elle peut varier dans certains centres, passant d'un traitement conservateur consistant uniquement en antibiotiques à une colectomie segmentaire ou même à une hémicolectomie droite. Nous présentons le cas d'un patient de 45 ans ayant déjà reçu un diagnostic de douleur chronique dans la fosse iliaque droite après une appendicectomie diagnostiquée avec un seul diverticule caecal.

Mots clés: diverticulose caecale, appendicectomie, fosse iliaque droite.

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Introduction

Cecum diverticulitis of the right colon is a rare disease, with a reported incidence of 0.04%[1] of all cases of colon diverticulitis discovered intraoperatively or by imaging investigations. In Europe and in the United States, right side colon diverticulitis remains a rare and uncommon pathological finding, while in Coreea, China and Japan the incidence is ten times higher[1]. Cecum diverticula that have all the digestive layers are considered to be congenital[2].

Clinical symptoms may vary depending on the location of the diverticulum, usually it mimics acute appendicitis, but when it's located at a distance from the ileocecal valve in the proximity of the colon, the differential diagnosis becomes difficult, mimicking a large right illiac fossa and right upper quadrant symptomatology.

Controversies exist regarding the optimal management in non perforated cecum diverticulitis, ranging from conservative approach with intravenous antibiotics, to surgical procedures such as diverticulectomy and right hemicolectomy[3]. The management approach should be based on the clinical presentation of the patient, the intraoperative findings, and the surgeon's experience.

Case presentation

We present the case of a 45-year-old man, who presented in our emergency room with symptoms of acute appendicitis: pain in the right iliac fossa, positive Blumberg sign, vomiting and nausea. Symptomatology progressed over the last 72 hours prior to presentation to the emergency room. Clinical exam revealed a rigid abdomen, tender to palpation, fever 38.5°, pale skin and tachycardia (110 bpm). Laboratory results showed high white cell count (WBC 15.500/uL), neutrophilia and increased serum glycemia (230 mg/dL).

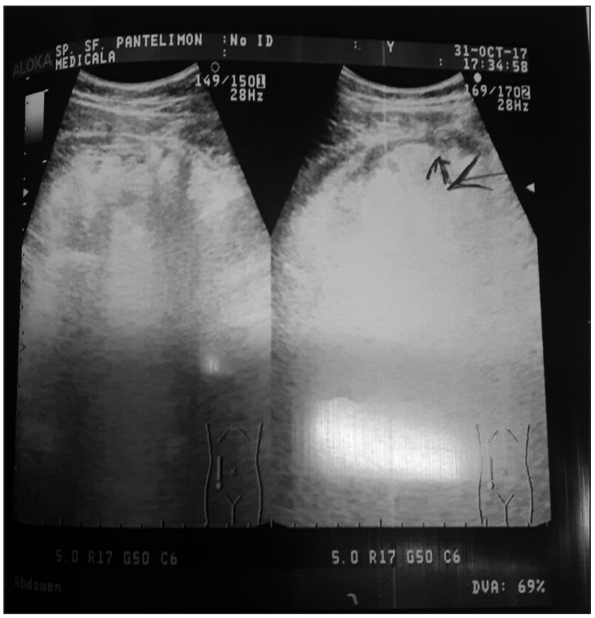

Figure 1. Abdominal ultrasound. Free fluid in the right iliac fossa

Abdominal ultrasound revealed fluid in the right iliac fossa. Plain abdominal radiography was normal (Fig. 1).

The patient related that he had a history of multiple bone fractures after a car crash and an appendectomy when he was 12 years old. The surgical team decided to perform additional examinations before surgery. The patient's symptoms were diminished after i.v. antiinflammatory drugs in the emergency room. He was addmited and treatment with i.v. large spectrum antibiotics, nonsteroid anti-inflammatory drugs and hydration was initiated.

After 24 hours, we performed a barium enema, that showed a normal bowel shape and linning. The third day after addmision, the patient was asymptomatic, fever was down, abdomen was no longer rigid and the white blood cell count was normal (WBC 9.000/uL).

We performed a colonoscopy, that showed: dolichocolon and a single cecal diverticulum, that had signs of inflammation, and white fibrinous deposits around the lesion (Fig. 2).

The patient was discharged, without the necessity of a surgical intervention, but with the indication of coming back after six months for a follow-up exam, consisting of a colonoscopy and an abdominal magnetic resonance imaging (MRI).

Discussion

Right colon diverticulosis was first described as a clinical entity in 1912 by Potier[4]; subsequently in literature, approximately 500 cases of cecal diverticulosis were described. It is presumed that a single cecal diverticulum is in fact a congenital one that appears in the 6th week of embryonic development.

Like other congenital diverticula, the cecal diverticula remain asymptomatic until the onset of complications: perforation, inflammation, or malignancy. Usually, in the case of complications, the cecal diverticulum mimics the symptomatology of an acute appendicitis: pain in the right iliac fossa, Blumberg's sign positive and fever. When the patient had an appendectomy, diagnostic errors of diverticulitis occur, which can impede appropriate treatment.

Differential diagnosis is initially done with acute appendicitis, then with right kidney colic, pelvic

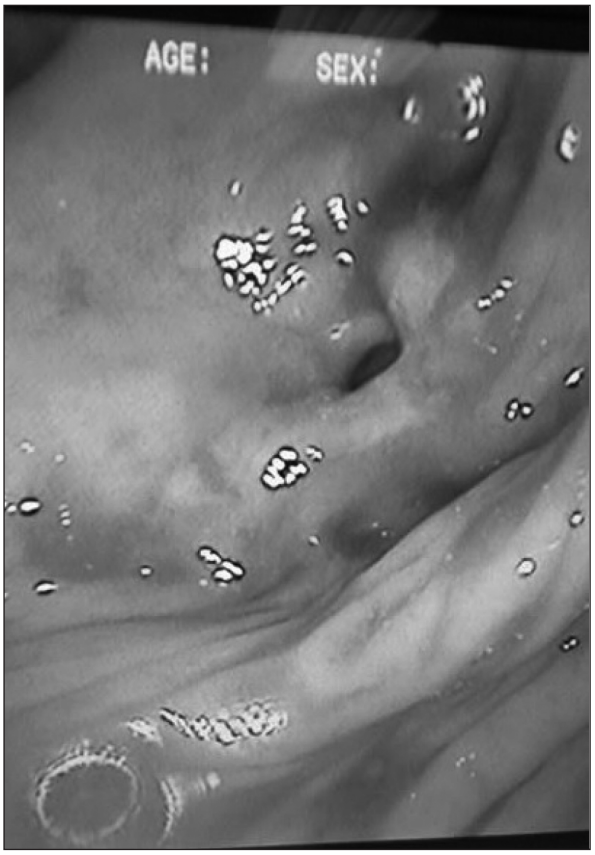

Figure 2. Colonoscopy. Solitary cecal diverticulum with fibrinous deposits on endoscopic imaging.

inflammatory disease, ureteral calculi, cecal perforation due to foreign body intake and Crohn's disease. There are certain signs that may point the surgeons attention to the diagnosis of cecal diverticulum, the most important being the duration of pain, which does not have periods of lull, and absence of toxic signs, nausea and vomiting[5]. Preoperative diagnosis is often extremely difficult, certain investigations being necessary for a right diagnosis. Barium enema was considered in the past to be sufficient for the diagnosis of cecal diverticulosis, but according to literature, its interpretation may often be erroneous or inconclusive.

Abdominal ultrasound may reveal free fluid in the right iliac fossa and a thickened lumen of a formation that belongs to the cecal wall, but it is hard to distinguish from the appendix.

Colonoscopy remains the "gold standard" for the diagnosis of cecal diverticula. Colonoscopy will not be performed in acute cases of diverticulosis or when the diverticula are perforated.

An emergency laparoscopic-assisted right hemicolectomy can be safely performed in patients with complicated cecal diverticulitis, compared with the open approach, as it is associated with less blood loss and earlier return of bowel function[6]. A literature review, with 279 cases with cecum diverticulum treated surgically by ileocecal excision, reported no morbidity[6]. On the contrary, the right hemicolectomy required increased surgical time and the morbidity rate was high (up to 1.8%)[3,7]. Subsequently, in patients with inflammatory cecal masses due to benign pathologies, this approach cannot be suggested. Fang et al, in a review of 85 patients with cecal diverticulitis, recommend aggressive surgical resection, as less than 40% of those patients who were treated conservatively had a successful outcome and no recurrence during follow-up period[3]. Similarly, another study, by Lane et al, reported that 40% of patients treated by diverticular excision or intravenous antibiotic therapy required later hemicolectomy, because of the continuous inflammatory process[8]. Additionally, a laparoscopic approach of the cecal diverticulitis has been reported as a safe and effective therapeutic option.

The lack of randomized studies for this pathology makes the management of the surgery a controversial one. The decision belongs to the surgeon, depending on the intraoperative appearance and experience of the center. If the preoperative diagnosis is uncertain, or the intraoperative appearance suggests a malignant lesion, the optimal treatment is right hemicolectomy.

Conclusions

Although it is considered a rare pathology, cecal diverticulosis should be a diagnosis considered in the case of painful pathology of the right iliac fossa. The imaging of this pathology must be complex, and includes all the preoperative steps required for a correct diagnosis. Lack of evidence and studies should not prevent the surgeon from doubting the diagnostic decision. In case of incidental discovery of a cecal diverticulum in a routine colonoscopy, the patient can only benefit from a simple biopsy, whereas in cases complicated by perforated diverticulitis, the correct action may range from diverticulectomy to right hemicolectomy.

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