

Chronic stump appendicitis as a cause of chronic abdominal pain[☆]



Apendicitis crónica del muñón apendicular como causa de dolor abdominal crónico

Introduction

Claudius Amyand performed the first appendectomy in 1736.¹ In 1889, McBurney advocated early appendectomy as the treatment of choice for acute appendicitis. In 1982, Kurt Semm performed the first laparoscopic appendectomy, which is now the treatment of choice at most centres.² Acute stump appendicitis is a rare and anecdotal complication with few reported cases in the literature and no cases of chronic appendicitis. We present the case of chronic stump appendicitis as a cause of chronic abdominal pain.

Case report

A 29-year-old woman with laparoscopic appendectomy two years prior, who attended due to a nine-month history of abdominal pain in the right iliac fossa. This manifested with exacerbations that abated with analgesics, which is why she was assessed on an outpatient basis.

The patient's blood tests revealed 14,000/ μ l total leukocytes (85% neutrophils and 18% lymphocytes), and the abdominal ultrasound showed thickening and ileocaecal inflammation.

In light of suspected inflammatory bowel disease (IBD), it was decided to perform a full-body MRI, which revealed thickening of the terminal ileum and caecum, as well as a small adjacent accumulation. The CT scan showed thickening of the walls, as well as the accumulation described in the full-body MRI. The patient had to be admitted to hospital due to increased pain during the course of the study. A colonoscopy and terminal ileoscopy were performed, which identified a fibrinous ulcer of the fundus of the caecum. A biopsy revealed a histology of nonspecific inflammatory changes. Since the rest of the examination was normal, no further biopsies were performed.

Given the patient's chronic pain, with exacerbations becoming more and more intercurrent, and having ruled out IBD, an exploratory laparoscopy was performed. This revealed an inflammatory mass in the right iliac fossa formed by the omentum, caecum and terminal ileum, and an inflamed appendicular stump, which was resected (Fig. 1).

The patient progressed favourably, with complete abatement of pain. She was discharged after 48 h.

The patient remains asymptomatic after 12 months of follow-up.

The histological study of the surgical specimen identified an appendicular stump with fibrosis and follicular lymphoid hyperplasia, with periappendicular tissue characterised by



Figure 1 Laparoscopically resected appendicular stump.

fibrosis with focal mononuclear inflammatory infiltrate. Caecum with hyperplasia of the submucosal lymphoid follicles and focal mononuclear inflammatory infiltrate. All of the above were related to chronic appendicitis.

Discussion

Appendectomy is one of the most routine surgical procedures. The risk of developing acute appendicitis in the general population is 8.6% for men and 6.7% for women.³ As with any surgery, complications cannot be ruled out. These may be categorised as early-onset: bleeding, wound infection or intra-abdominal abscess; or late-onset, which are less common: abdominal wall hernias, bowel obstructions and stump appendicitis.

The first two cases of acute stump appendicitis were published by Rose in 1945 and, since then, only 60 cases have been reported², none of which have been chronic. It is therefore a rare and uncommon complication, with an incidence of one in every 50,000 appendectomies.¹ A case series has been published which found that perforated appendicitis had been observed during appendectomy in 60% of cases.^{2,4}

The onset of symptoms varies from two months to 52 years after the surgery.⁵ They are typically similar to acute appendicitis: pain in the right iliac fossa, nausea and fever. The physical examination also tends to be clear: a positive Blumberg sign and signs of infection in laboratory tests.² The challenge lies with subacute cases with hidden symptoms and dull pain in the right iliac fossa in young patients, and radiological findings indicating inflammation, which rule out the IBD typically seen in young patients.

An ultrasound or CT scan may confirm the diagnosis when there are suggestive clinical data, ruling out other causes of acute abdomen that may give rise to similar symptoms. However, confusion with other enteropathies may ensue when symptoms are not particularly striking in subacute cases.

Conclusion

Both chronic and acute abdominal pain in the right iliac fossa in a patient with a history of appendectomy should lead us to suspect stump appendicitis, regardless of whether or not manifestations are acute or chronic. In the event of

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inconclusive radiological findings, exploratory laparoscopy should be considered as a definitive diagnostic test which also allows surgical treatment to be performed in the same intervention. This consists of resecting the remaining appendicular stump.¹

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Endoscopic band ligation – A valid option in colonic diverticular bleeding



Ligadura con bandas elásticas - una opción válida en el sangrado diverticular

Clinical case

Diverticular bleeding (DB) is a common cause for lower gastrointestinal bleeding. Its incidence is increasing due to the aging of population, as colonic diverticula are more frequent in the elderly.¹ The pathogenesis of DB is related to proliferation and weakening of the associated vas rectum of the diverticula conditioned by colonic luminal factors.¹ Hypertension, arteriosclerotic disease and regular use of nonsteroidal anti-inflammatory drugs are associated with higher risk of DB.¹ In the majority of the patients DB stops spontaneously and the bleeding diverticulum is not identified in colonoscopy. However, in about 10–20% of the cases, bleeding reoccurs.² This can be a serious condition, particularly in old patients with comorbidities. Proposed therapeutic options for DB encompass endoscopic hemostasis, embolization and surgery. Endoscopic hemostatic methods may include clipping and endoscopic band ligation (EBL). In a series of 100 patients, EBL was superior to endoscopic clipping (EC) in the treatment of colonic DB.³ We present a case of major colonic DB controlled with EBL.

A 69-year-old male patient with coronary disease under clopidogrel, was admitted to our emergency room with bright red blood hematochezia and syncope. On admission, he was pale, hypotensive and tachycardic. Abdominal examination was unremarkable and nasogastric aspirate

was bilious, without blood. Laboratory revealed acute normocytic anemia of 6.1 g/dl (previous value 13 g/dl) and no elevated markers of acute ischemic heart disease. He was stabilized with fluids and blood transfusion, and an urgent upper endoscopy was performed, showing no alterations, namely blood or the cause of bleeding. Bowel preparation was started and a total colonoscopy was performed, within the first 24 h after admission; it showed no blood and multiple non bleeding left side colonic diverticula. In the next 24 h, the patient presented again with hemodynamic instability and was admitted to our ICU. He was submitted to a second colonoscopy (after fast intestinal preparation) which showed fresh blood along the left colon and colonic diverticula. It was possible to identify the bleeding diverticula, with pulsatile hemorrhage in the sigmoid colon (Fig. 1a). Adrenaline (dilution 1:1000) was injected around the bleeding diverticula, conditioning mucosal elevation in the diverticular area (Fig. 1b); the bleeding was temporarily controlled. After that, endoscopic tattooing was performed to allow identification of the bleeding diverticula (Fig. 1c). Upper variceal band ligation kit was prepared and a conventional gastroscope was introduced; the marked diverticula was easily identified and a rubber ligation band was placed, surrounding and everting the diverticula (Fig. 1d). No active bleeding was seen by the end of the procedure. In the next 2 days, the patient remained stable, without blood loss despite reintroduction of clopidogrel. He was discharged 5 days after the admission, asymptomatic. One year after hospitalization, the patient remains asymptomatic and no rebleeding events or complication have occurred.

DB is mostly intermittent and resolves spontaneously; endoscopic diagnosis is usually presumptive, as the bleeding diverticula is not usually identified.² Early colonoscopy (within 18 h after the final hematochezia) was proved to significantly increase the detection rate of identifi-