no alteration in the morphology of the digestive tract, ruling out diverticular disease, and identified no apparent signs of a perforation site.

Microscopically, pulse granuloma is characterized by the presence of acellular eosinophilic hyaline rings, associated with an inflammatory reaction typically composed of foreign body giant cells. Vegetable material immersed in the lesion can sometimes be identified, but not always. Even though there are characteristic findings, in some cases, vegetable material is limited, and giant cells are scarce. The differential diagnosis can be made by the presence of an amyloid deposit, which can be determined histochemically through Congo Red dye, which is negative in hyaline rings[7].

The inflammatory reaction can mimic neoplasia. A reported case of pulse granuloma presented as a pelvic tumor with nodules in the peritoneal cavity, simulating carcinomatosis or peritoneal tuberculosis[3]. It can sometimes mimic neoplasia, such as colon cancer[4], or as in our case, an adrenal gland tumor, a site that has not previously been reported in the literature. The correct diagnosis was made after the histopathologic analysis was carried out.

In conclusion, knowledge of this entity and the fact that it can present outside of the oral cavity are important. Pulse granuloma can mimic neoplastic processes, causing patients to undergo unnecessary medical or surgical procedures.

Ethical considerations

The present work meets the current bioethical research norms. Because it was an observational study that involved no diagnostic or therapeutic interventions on the patient, approval by an ethics committee was not required. The authors declare that this article contains no personal data in the text or its annexes that could identify the patient.

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Conflict of interest

The authors declare that there is no conflict of interest.

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Intestinal tuberculosis mimicking colon cancer

Tuberculosis intestinal como simuladora de una neoplasia de colon

Intestinal tuberculosis accounts for 2% of the cases of tuberculosis worldwide. It can present completely asymptomatically, or with few symptoms,[1] and mimic other abdominal diseases,[2–3] making its diagnosis a challenge. Its misdiagnosis reaches rates of up to 50–70%, even in countries where tuberculosis is endemic.

A 67-year-old man with an unremarkable past medical history and no previous contact with individuals presenting with tuberculosis was included in a population screening program for colorectal cancer. The fecal occult blood test was positive, and his only symptom was occasional episodes of colicky abdominal pain.

Following the evaluation protocol, diagnostic colonoscopy was performed, in which an ulcerated stricture was revealed at the level of the hepatic flexure, preventing the passage of the endoscope (Fig. 1), and was suggestive of a neoformation. Biopsy specimens were

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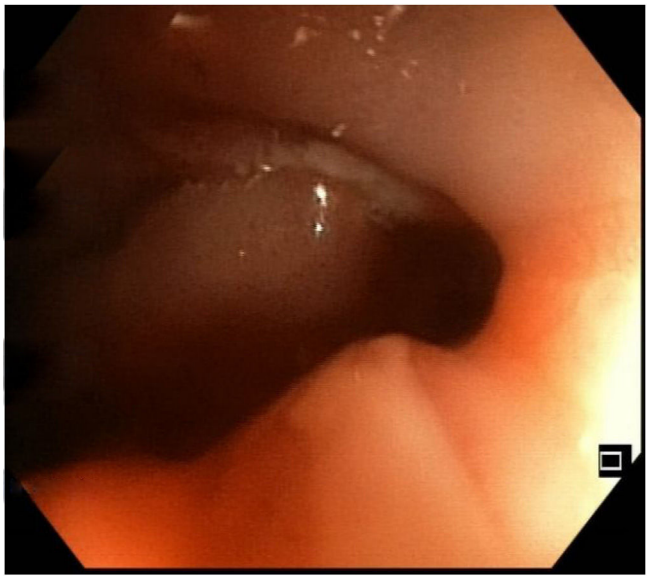

Figure 1 Endoscopic image of the stricture observed during the examination.

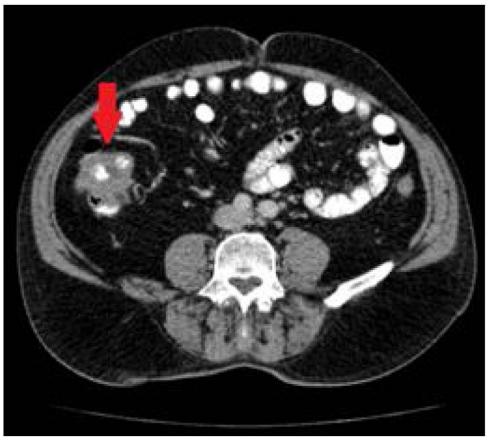

Figure 2 Chest and abdominal CT scan showing the wall thickening of the ascending colon (arrow).

taken, and tattooing was applied, in a distal direction. Only uncomplicated diverticula were observed in the rest of the examination.

Given those findings, a chest and abdominal CT scan was carried out that described a thickening in an approximately 8 cm segment of the ascending colon, toward the hepatic flexure, with probable involvement of the ileocecal valve, consistent with a primary tumor with no adenopathies, distant disease, or signs of bowel obstruction (Fig. 2).

The anatomopathologic study of the endoscopic biopsy described necrotizing granulomatous inflammation, with no signs of malignancy. Nevertheless, because the endoscopic features and radiologic images raised the suspicion of a primary tumor, the patient underwent a laparoscopic right hemicolectomy, with extracorporeal anastomosis. His postoperative progression was good.

The pathologic study of the surgical specimen also described necrotizing granulomatous inflammation (Fig. 3), with no signs of malignancy. The differential diagnosis was between Crohn's disease, with a stricturing pattern, and intestinal tuberculosis. Surgical specimen PCR testing for *Mycobacterium tuberculosis* was positive, confirming the relation of the endoscopic and radiologic findings to intestinal tuberculosis, and antituberculosis treatment was started.

Intestinal tuberculosis is a form of abdominal involvement due to *Mycobacterium tuberculosis*, with a much lower prevalence than the customary manifestation of the infection in the lung, but its elevated morbidity and mortality could be associated with its challenging diagnosis. The disease can be completely asymptomatic,[4] as in the case presented herein, or may present with only a few symptoms, such as abdominal pain, weight loss, or fever,[5–8] thus being indistinguishable from other abdominal conditions, such as inflammatory bowel disease or those with a malignant etiology. Currently, the combination of clinical presentation, endoscopy, radiologic imaging, and pathologic findings is key for making its diagnosis.[3,5]

Intestinal tuberculosis predominantly affects the ileocecal region (64%),[5,9,10] with isolated involvement of the colon described in approximately 10.8% of cases. Incidence is greater in immunocompromised patients and the most affected area tends to be the cecum,[8,9] because of its contiguity to the ileocecal region.

During colonoscopy, the most frequent finding is that of irregular, nodular, erythematous, and edematous mucosa, with areas of ulceration,[5,7,9] which is different from that observed in Crohn's disease, in which the mucosa surrounding the ulcers usually appears normal.

Radiologically, abdominal CT findings of intestinal tuberculosis include wall thickening of a segment of the intestine, abdominal adenopathies with central necrosis, intra-abdominal collections, or peritoneal inflammation. When there is colorectal involvement, the most frequent findings are strictures, signs of colitis, or polypoid lesions. In such cases, amebic, ischemic, or pseudomembranous colitis, as well as malignant disease, make up the differential diagnosis of colorectal tuberculous involvement. Therefore, diagnosis must be based on a high degree of suspicion and demonstrated by the presence of caseating granulomas in the endoscopic intestinal biopsies,[8,9] which is an aspect that differentiates the diagnosis from that of Crohn's disease, together with a positive smear or culture for acid-resistant bacilli.[7,8] However, in some cases, the clinical and endoscopic response to antituberculosis treatment is still needed to make the diagnosis.[5,7]

As mentioned above, the treatment of choice is antituberculosis therapy for at least 6 months, including isoniazid, rifampicin, and pyrazinamide, the first 2 months of the therapeutic regimen, followed by 4 months of isoniazid and rifampicin. The response to medical treatment tends to be good, reserving surgery for nonresponders or patients with associated complications. Medical management results in significant symptom resolution in the majority of cases, including those of stricture.[6–9] Thus, if patients are asymptomatic after medical treatment of colonic lesions, follow-up colonoscopy is not required.

In summary, intestinal tuberculosis is a disease that is difficult to diagnosis, its clinical presentation is nonspecific, and it can be confused with other entities, such as tumors

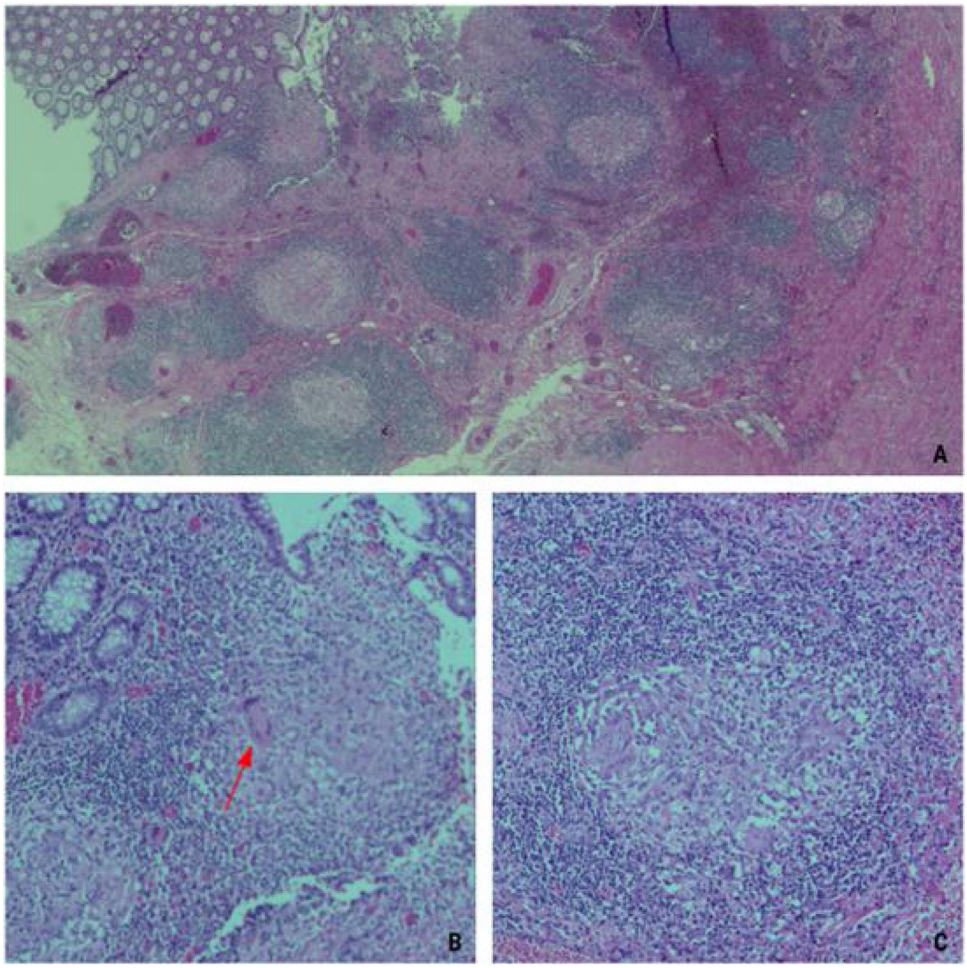

Figure 3 Microscopic images of several surgical specimen sections. (A) Image showing the ulcerated mucosa and the presence of granulomas in the lamina propria of the mucosa (×2.5 magnification). (B) Image showing the presence of a Langhans giant cell (red arrow), with its characteristic multiple nuclei arranged on the periphery (×10 magnification). (C). Image of a tuberculous granuloma that distinguishes the lymphocytic collarette surrounding epithelioid cells (×20 magnification).

or Crohn's disease. The combination of endoscopic and histologic studies is essential for making the correct diagnosis and starting early drug treatment, thus preventing possible complications and providing cure in the majority of cases.

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Conflict of interest

The authors declare that there is no conflict of interest.

Ethical considerations

No experiments were conducted on humans for the present study and the authors followed the protocols of their work center on the publication of patient data. Authorization by the institutional ethics committee was not required, given that patient confidentiality and anonymity were preserved at all times. The authors declare that this article contains no personal information that could identify the patient. Informed consent for the surgical intervention was requested of the patient, and included a section stating the possibility of using images and clinical data for scientific purposes.

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Rectal syphilis: A case report

Sífilis rectal: reporte de un caso

Syphilis is a systemic disease caused by the spirochete, *Treponema pallidum*. Its prevalence is 5 million new cases diagnosed annually and the majority of cases, estimated at 75%, are men that have unprotected anal sex with men.[1] Syphilis and human immunodeficiency virus (HIV) coinfection is very common, and its prevalence varies from 45% to 79%.[2]

A 35-year-old man was diagnosed with HIV 3 years earlier and is undergoing treatment with a combination of tenofovir 300 mg + lamivudine 300 mg + efavirenz 400 mg, one tablet daily. The patient had a history of unprotected anal sex with men and sought medical attention due to straining, tenesmus, and rectal bleeding of two-week progression. Physical examination revealed multiple deep anal fissures. Laboratory work-up reported hemoglobin 15.2 g/dl, leukocytes 6,670 mm,[3] HIV viral load 22.4 copies/mL, and CD4+ (T-helper) lymphocytes 765 cells/μl. Serum FTA-ABS was positive, RPR was reactive (RPR titer 1/4), and serum VDRL was reactive (VDRL titer 1/4). *Chlamydia trachomatis* IgG antibodies were reported at 348.5 RU/mL and IgM antibodies at 14.6 U/mL (positive >14). Proctoscopy revealed multiple erosions and rectal ulcers with raised edges and clean bases (Fig. 1a and b). Histology reported lymphoplasmacytic inflammatory infiltrate in the lamina propria, associated with cryptitis and cryptic microabscesses (Fig. 1c). Warthin-Starry staining identified multiple spirochetes (Fig. 1d). A single dose of intramuscular benzathine penicillin G (2.4 million units) was administered. At the control follow-up at three weeks, the patient was asymptomatic, and proctoscopy revealed the ulcer healing process (Fig. 2).

Syphilis is a systemic disease that can sometimes affect the gastrointestinal tract. The present case describes a young man with HIV that practiced unprotected sex with men. Physical examination revealed multiple anal fissures, leading to the diagnostic suspicion of an infectious disease.[3–4] Clinical manifestations include anal pain, tenesmus, fecal urgency, purulent secretion, and rectal bleeding.[5] The diagnosis of syphilis requires non-treponemal and treponemal antibody tests. Warthin-Starry staining can identify spirochetes. Nevertheless, we suggest the PCR test in rectal biopsies, which has 70–95% sensitivity and 92–98% specificity.[6] *Chlamydia trachomatis* infection, herpes simplex virus, and cytomegalovirus should be taken into account in the differential diagnosis in immunocompromised patients that practice unprotected sex, otherwise, neoplastic disease or inflammatory bowel disease should be considered.[7,8] Local complications can include stricture, obstruction, and perforation of the rectum.[9]

In conclusion, rectal syphilis is rare and tends to present with ulcers and symptoms of proctitis. Opportune diagnosis is important, given that treatment is easy to carry out and offers a good prognosis, if administered in the early phase, thus preventing complications, such as neurosyphilis or severe damage to the heart.

Ethical considerations

The authors declare that no experiments on humans were carried out for this research. Database protocols of the authors' work center were followed, preserving patient anonymity. This study meets the current bioethical research norms, (thus informed consent was not requested), was approved by the Ethics Committee of theHospital Belén de Trujillo.

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