



Case report

Solitary ulcer in cecum, mimicking a carcinoma: A case report

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H I G H L I G H T S

- We present a case report of a 68- year-old female patient with a solitary cecum ulcer, mimicking a carcinoma.
- Little over 200 cases have been reported in medical literature.
- The most common cause of this ethology is: NSAIDs consumption.
- The gold standard for diagnostic is colonoscopy, taking a biopsy in order to rule out malignancies.

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A B S T R A C T

Introduction: Solitary ulcers in the colon are rare and infrequent; little over 200 cases have been reported in medical literature. We present a case of a patient presenting with a solitary colonic ulcer associated with NSAIDs intake, mimicking a malignant lesion. A review of the literature is also revised.

Presentation of case: 68- year-old female patient with past history of nonsteroidal anti-inflammatory drugs (NSAID) intake for chronic pain, complaining of severe abdominal pain was admitted to our teaching hospital. The diagnosis of a low-grade dysplasia was made with colonoscopy and biopsy, a malignant lesion could not be ruled out. A laparoscopy right colectomy was performed without complications. The final diagnosis resulted in a solitary cecal ulcer.

Discussion: The majority of the cases of solitary colonic ulcers occur in the ascending colon, at the cecum, which has been attributed mostly to the intake of NSAIDs. There could be solitary colonic ulcers in other portions of the large intestine, caused by different etiologies: ischemia, inflammatory disease, stercoraceous ulcers, ulcers caused by infections, among other more uncommon causes. The diagnosis is often made through a biopsy of the tissue during a colonoscopy, with either surgical or conservative care.

Conclusion: The diagnosis of solitary cecal ulcer should be considered in patients presenting with RLQ abdominal pain and with history of NSAIDs consumption. Recognition of this diagnosis by surgeons, ruling out malignancies, understanding the morphologic features, and carefully taking the patient's history are essential for the diagnosis and treatment of this uncommon disease.

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1. Introduction

The benign ulceration of the cecum is very uncommon and few cases have been reported since Cruveilhier originally described it in 1883 [1]. Approximately 50% of colonic ulcers found in the cecum are generally antimesenteric and 2 cm away from the ileocecal valve [1–3]. The etiology may vary, but the most common causes

are malignancies, inflammatory diseases or drug-related side effects, with NSAIDs being reported as the most common agent [2].

We found around 200 reported cases in medical literature that describe solitary colonic ulcer diagnosis, with associated findings and implications. Great deals of names have been proposed for this disease including: non-specific colonic ulcers, simple colonic ulcers, idiopathic colonic ulcers, solitary colonic ulcers and colonic peptic ulcers. An international consensus regarding the nomenclature of this disease has not been reached so we will be referring to it as a solitary colonic ulcer. We report a case of a 68-year-old female patient admitted to a teaching hospital, with history of intermittent abdominal pain, diffuse and with lower right-quadrant prevalence and with history of recent NSAID

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consumption. The diagnosis of a solitary colonic ulcer with low-grade dysplasia was reached by colonoscopy, mimicking a carcinoma in a CT scan. A malignant lesion could not be ruled out, therefore she was treated surgically by performing an unremarkable right colectomy.

The literature of this uncommon disease is also reviewed. The work has been reported in line with the SCARE criteria [4].

2. Presentation of case

A 68-year-old female patient presented at the ER with RLQ pain as chief complaint. She referred past medical history of hypertension, cardiac arrhythmia, breast cancer treated by a partial mastectomy and radiotherapy, and no weight loss. She had a long history of osteoarthritis and had been taking NSAIDs for the past 4 years, including indomethacin 50 mg q12h. Also history of smoking was denied and she referred occasional social drinking.

She first noticed the abdominal pain a month before she came into our ER, located at the mesogastrium with radiation towards the right iliac fossa, 4/10 in pain intensity and she also referred constipation during the same period of time. She treated her symptoms empirically with hyoscine butylbromide and acetaminophen, which only partially relieved the symptoms. Twenty-four hours before her arrival she referred that the pain escalated to 8/10, thus leading to her decision to come in to our ER.

At her arrival, her vital signs were stable, and her physical examination revealed pain to light palpation at the right iliac fossa, with positive rebound, mimicking a case of an appendicular scenario, with no other abnormalities. CBC showed hemoglobin level of 12 mg/dl, and WBC of $7 \times 10^9/L$, and X-ray of her abdomen revealed only partial distension of the colon, with not signs of bowel obstruction.

Because of the severity of the pain, a CT scan with contrast was ordered two hours after her admission, reporting irregular thickening in ascending colon (Fig. 1). As this result turned out inconclusive, the decision for a colonoscopy was taken an hour after the CT was performed, the study reported a stenotic lesion partially ulcerated in the cecum, erythematous, friable and indurated, with irregular exophytic growth with a total circumference and longitudinal trajectory of 6 cm (Fig. 2). Multiple biopsy samples were taken for further histopathologic examination in order to rule out malignancy that came back reporting tissue with acute inflammation, ulceration and adenomatous changes, and low-grade dysplasia (Fig. 3).

The patient was admitted, and she persisted with abdominal pain for the next 48 hours, with no resolution of her symptoms in spite of her treatment with IV acetaminophen and hyoscine butylbromide. With the evidence collected and the symptoms persisting, a malignancy could not be ruled out, therefore the decision was made for treatment by means of a right laparoscopic

colectomy with ileo-transverse side-to-side anastomosis. The tissue was sent to pathology for the conclusive diagnosis that was reported as a solitary colonic ulcer in the cecal wall measuring of 1.5 cm, with different layers of reparative organization, adenomatous changes and without evidence of malignancy (Fig. 4). The patient went through her post-operative recovery without any complications and she was discharged home, asymptomatic, on the third day.

3. Discussion

Signs and symptoms of solitary cecal ulcers are non-specific and the disease has no pathognomonic signs, which results in the solitary colonic ulcer being often misdiagnosed as acute appendicitis [1,2]. The most common symptom is abdominal pain in the lower-right quadrant but other symptoms include: melena or hematochezia, constipation, diarrhea and weight loss [1–3]. Preoperative and intraoperative diagnoses are hard to make and the definitive diagnosis is generally obtained by histology, with the surgical piece and/or a colonoscopic biopsy [5].

Solitary colonic ulcers have a very small incidence and they can manifest within every age group but there is a slight higher prevalence in patients from forty to sixty years old and it is more common in females [6,7]. It can be expected to find a solitary colonic ulcer in one or two out of every thousand patients submitted to a colonoscopy, with a higher incidence in patients studied for gastrointestinal bleeding or anemia [8].

There are many etiologies that can cause a solitary colonic ulcer, and other than the leading cause being consumption of non-steroid anti-inflammatory drugs, there are others such as the Solitary Rectal Ulcer syndrome, stercoraceous ulcer, ischemic ulcer, or ulcers caused by infections, among other even less common causes [2,7]. These etiologies appear most commonly on the left colon and rectum, with NSAIDs ulcers being predominantly found at the cecum and right colon.

In a study by Ohkusa et al. [9], from 425 patients exposed to chronic consumption of NSAIDs found that as many as 3% suffered from colonic lesions. Recently, colonic complications induced by this drug family have garnered some notice but there are very few articles available on the disease [9,10]. NSAIDs are one of the most prescribed groups of pharmaceuticals in the United States, with an estimated 40 billion pills of aspirin sold in pharmacies each year [10]. This disease has been on the rise due to the chronic and widespread consumption of NSAIDs for diverse diseases, like osteoarthritis and/or other rheumatologic disorders [11,12]. It has been suggested that NSAIDs increase colonic permeability, which can produce complications like hemorrhages, ulcers and the reactivation of latent inflammatory diseases [11].

The radiological findings in a CT scan of a solitary chronic colonic ulcer are very similar to those of a cecal carcinoma, with the colonic

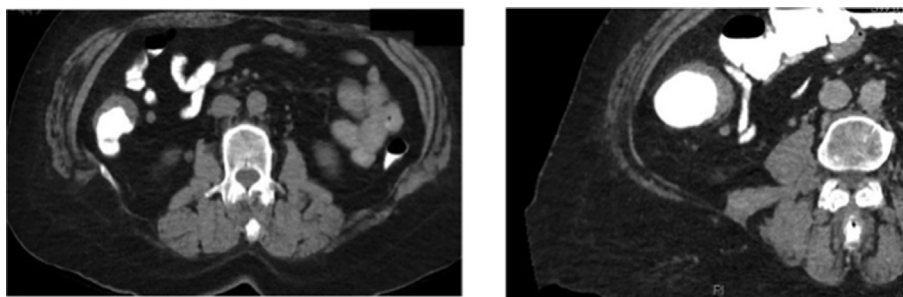


Fig. 1. Contrast CT-Scan. A) Axial view of the wall thickening of the cecum. B) Axial view close up, on the gross wall of the cecum.

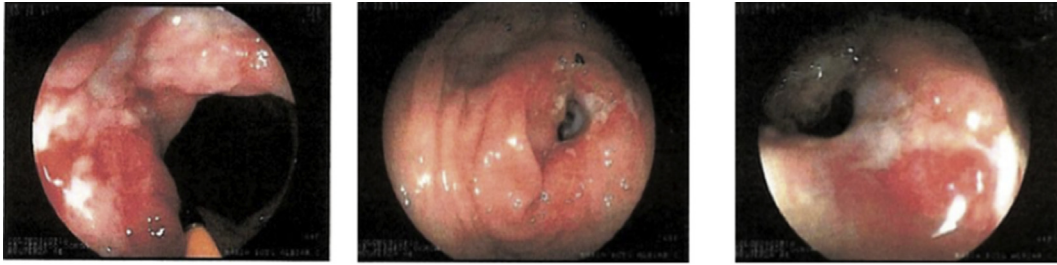


Fig. 2. Colonoscopy. A) Erythematous, ulcerative and friable lesion at the cecum. B) Partial stenosis. C) Ulceration around the entire circumference.

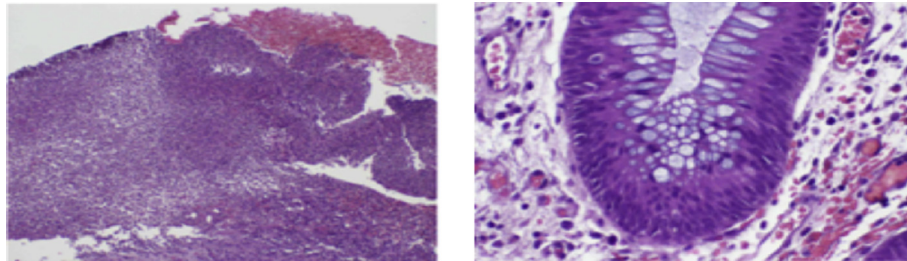


Fig. 3. Biopsy of lesion in ascending colon. A) Ulcerated mucosae with granulation tissue. B) Colonic glands with pseudo-stratification, nuclear elongation and mitotic figures. Consistent with low-grade dysplasia.

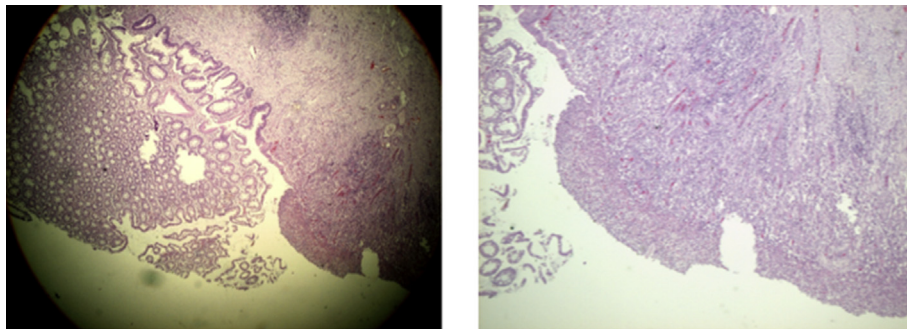


Fig. 4. Cecal peptic ulcer. A) Mucosae is observed and the beginning of the ulcerated zone. B) Ulceration is observed, with total absence of the mucosae, with reparative tissue and inflammation process.

wall thickening by edema in the sub-serous layer, striations in the pericolic adipose tissue [2], and as stated in our introduction, a great percentage of colonic ulcers are found in the cecum, generally antimesenteric and 2 cm away from the ileocecal valve [1–3]. This is consistent with the findings in our patient, who got a CT scan with contrast, further pointing out evidence of irregular thickening of the medial wall, which measured 4.1 cm and was located in the antimesenteric border, just 2.1 cm away from the ileo-cecal valve and 40% stenosis. This is a key element to explain our decision to opt for a surgical approach because the biopsy could not rule out a malignancy, and the CT showed characteristics mimicking a carcinoma. In retrospect, if a malignancy had been ruled out at first then a more conservative approach would have been made. Medical treatment includes observation and discontinuation of the offending agent, or treatment with steroids. Reexposure to NSAIDs should be avoided, given the high risk for relapse [13].

The gold standard for diagnosis is colonoscopy, taking a biopsy from the border of the ulcer in order to rule out malignant processes. In patients with a possible diagnosis of inflammatory disease, random samples from the entire colon should be taken [2,7]. Deep ulcers in the recto-sigmoid region should indicate a possible steroid-induced lesion, while linear ulcers are most probably caused by ischemic colitis, and ulcers in ascending colon or cecum are

probably caused by NSAID consumption.

The histopathologic diagnosis is based on the biopsies taken during colonoscopy and these should always be taken from the distortion margin of the normal cellular architecture. In 1969 at St. Marks hospital in London, Madigan and Morson [14] described the histologic characteristics of the solitary rectal ulcer, which included thickening of the wall with nuclear elongation, glandular distortion, lamellar edema, fibrosis and muscle fiber infiltration into the crypts. The dysplastic glands in the submucosal layer can be misinterpreted as a rectal or colonic carcinoma, or it can occur in conjunction with this neoplasia. This is consistent with our patient's case, in which the colonic biopsy first reported an ulcerated dysplasia with stenosis in the right hemicolon.

4. Conclusion

The etiology of most solitary colonic ulcers or also called colonic peptic ulcers is poorly understood. A diagnosis of this disease should be suspected in patients with severe abdominal pain in the right iliac fossa with history of NSAIDs consumption. The gold standard for the study of this pathology is a colonoscopy with a biopsy. Treatment should consist in the immediate discontinuation of NSAID-therapy, a high fiber diet to avoid constipation and

conservative care at first. If the symptoms persist, or a malignant lesion cannot be ruled out a surgical approach can be considered, performing a hemicolectomy, based on the patient's state, comorbidities and progression.

Ethical approval

NA.

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Author contribution

Mauricio Gonzalez- Urquijo: He is a first year general surgery resident. He was the leader of the work, he design the case report. He recollected data, and wrote the manuscript.

Javier Rojas-Mendez: He is a surgery professor, he monitorized the work that was being done. He recollected data, revised the manuscript, and he wrote part of the manuscript.

Lucas O. Tijerina-Gomez: He is the surgeon in charge of the case, he checked the work was being well done, he made the final approval of the manuscript. He wrote part of the manuscript. He recollected data.

Conflicts of interest

None.

Guarantor

Lucas Tijerina-Gomez.

Registration of research studies

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Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of

the written consent is available for review by the Editor-in-Chief of this journal on request.

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