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An unusual case of chronic appendicitis: A case report and literature review

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Abstract
Acute appendicitis is one of the most frequent and studied surgical emergencies. In contrast, chronic appendicitis is not well understood at the moment, but the condition begins with partial, transient or recurrent obstruction of the appendicular lumen.
A 25-year-old male attended the general surgery department after presenting a 2-month chronic abdominal pain in the right iliac fossa, moderate intensity, oppressive type, without nausea, vomiting or diarrhea. In the absence of any significant previous medical history, laboratory studies were performed without alterations. After requesting a simple abdominal tomography there were findings related to an inflammatory appendiceal process with a thickness of 8 mm and calcification in its wall, without evidence of adenopathies or free fluid. A diagnostic laparoscopy was performed without any incidents whatsoever; although, chronic appendicitis secondary to intraluminal parasitosis was found in histopathological results. There is very little evidence that the presence of parasitosis is a trigger for chronic appendicitis, given the low incidence of chronic appendicitis; however, acute appendicitis may be a common finding. Most of the studies affirm that there is no relationship between parasitosis and the presence of acute appendicitis; nevertheless, the presence of a parasite within a chronic appendix could be the etiological condition.

Keywords: Appendicitis, parasites, chronic abdominal pain

Introduction
One of the most frequent surgical emergencies is acute appendicitis, currently, the etiology, pathophysiology, and treatment are well established [1]. On the other hand, chronic appendicitis was defined more than 100 years ago, however, it has not been clarified given its low frequency [1]. It has been quantified that 1-1.5% of all cases of appendicitis are chronic [2].
Recurrent appendicitis is defined as 1 or more acute episodes of appendicitis lasting 24-48 hours, consequent of a temporary occlusion of the appendix lumen or excessive mucus formation (1).
In chronic appendicitis, mild but continuous abdominal pain occurs, lasting more than 72 hours and up to weeks or months, contemplating that the symptoms are milder than in acute appendicitis. Its physiopathology describes a partial or permanent occlusion of the appendicular lumen [3].
The chronic condition is suspected when there is pain in the lower right quadrant for more than 72 hours and later the confirmatory diagnosis is made with the histopathological result that describes chronic inflammation [1].
The pathophysiology of chronic appendicitis is not well understood. However, it is known that the condition begins with partial or recurrent obstruction of the appendicular lumen or disproportionate production of mucus. This leads to the subsequent accumulation of appendiceal secretion and progressive dilation of the appendix. This dilation causes the intraluminal pressure to increase and eventually releases the obstruction [4].

Case Report
A 25-year-old male attended the general surgery department after presenting a 2-month chronic abdominal pain in the right iliac fossa, moderate intensity, oppressive type, without nausea vomiting or diarrhea. The patient denies a personal pathological history or surgical history, he only refers to eating fast food (non-homemade) multiple times a week.
A diagnostic protocol was carried out based on complete blood count, blood chemistry, liver function tests, serum electrolytes, general urinalysis, coproparasitoscopy, and

Fecal occult blood tests, all of which were within normal ranges. Posteriorly an abdominal and wall ultrasound was performed without any alterations.

After requesting a simple abdominal tomography there were findings related to an inflammatory appendiceal process with a thickness of 8 mm and calcification in its wall, without evidence of adenopathies or free fluid. The need to perform a diagnostic laparoscopy based on the tomographic finding was discussed with the patient, to which he agreed and proceeded to get a laparoscopic appendectomy with laparoscopic endoloop.

The patient was discharged 24 hours after surgery and experienced no pain. The patient continued with a satisfactory evolution until his next appointment on the 10th day. During the appointment, the stitches were removed. The histopathology lab study revealed chronic appendicitis with a fibrotic appendix wall, as well as, the presence of an intraluminal parasite and suggestive eggs. The detailed experimental protocols, instruments, software, etc. used in the study should be described here with their proper references. The details of the study area should also be provided.

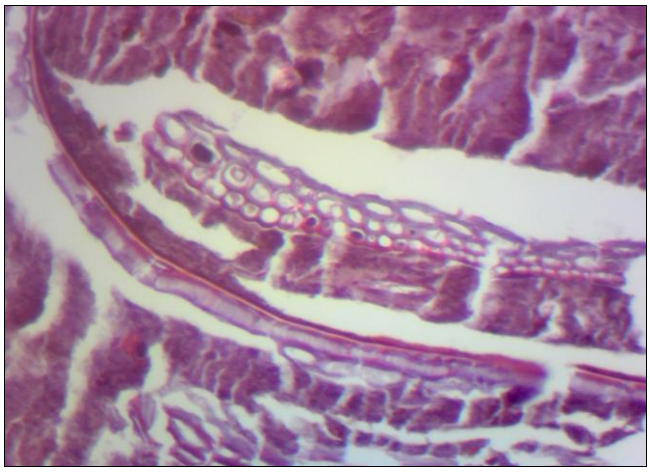

Fig 1: Histological section stained with hematoxylin and eosin where a structure consisting of a thin wall and multiple inverted cells with a structure compatible with a nematode (tapeworm) is observed in the lumen.

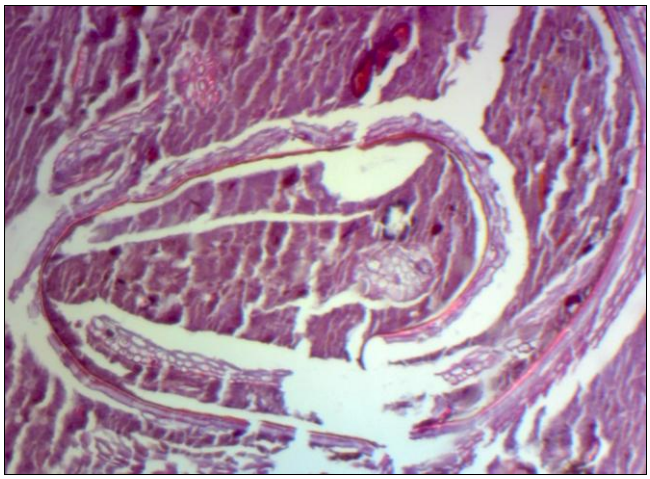

Fig 2: Histological section stained with hematoxylin and eosin where a structure consisting of a thin wall and multiple inverted cells with a structure compatible with a nematode (tapeworm) is observed in the lumen.

Fig 3: Macroscopic image compatible with nematode.

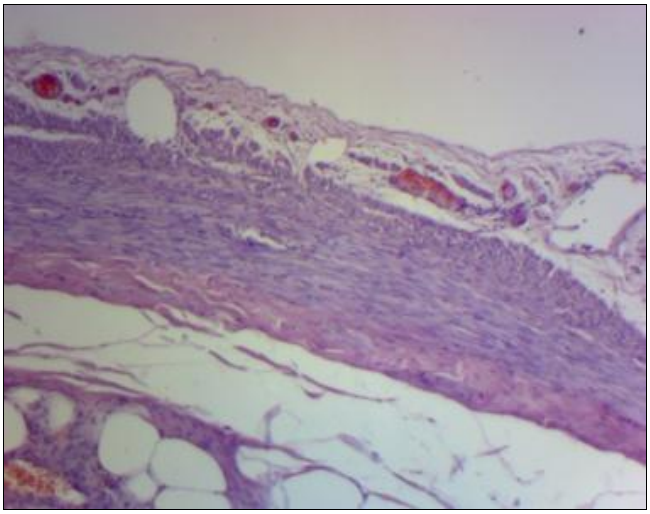

Fig 4: Histological section with hematoxylin and eosin staining where the cecal appendage is observed, which in the serosa exhibits dilation and vascular congestion with an infiltrate.

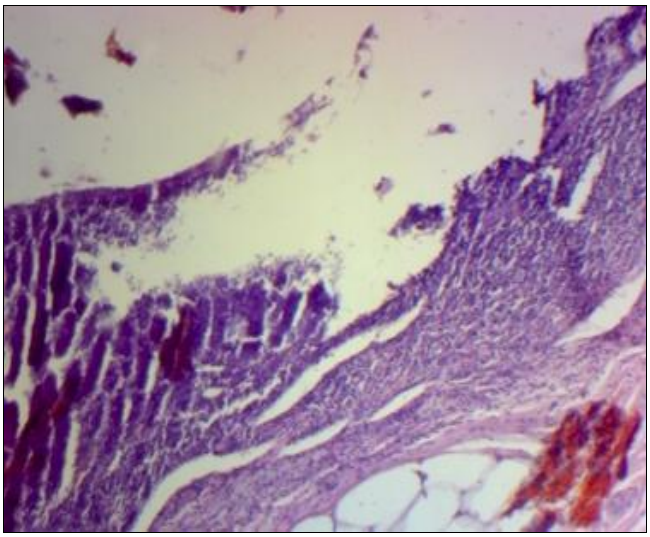

Fig 5: Histological section with hematoxylin and eosin staining where muscular layer and shows edema and necrotic tissue and ulceration, hemorrhage and infiltration in the mucosa.

Fig 6: Cecal appendix macroscopic view

Discussion

The probable causes of chronic appendicitis can be: infectious, chronic inflammatory and neoplastic, exemplifying enterobiasis, ascariasis, balantidiasis, taeniasis, actinomycosis, schistomiasis, amoebiasis, trichuriasis, intestinal tuberculosis, adenovirus, neurofibroma, carcinoid tumor, cystadenocarcinoma, lymphoma, leukemia, endometriosis, granulomatous disease, gastrointestinal stromal tumors, mucocele, villous adenoma, tubulovillous adenoma, tubular adenoma, leiomyoma, neurogenic appendicopathy, Crohn's disease, ileitis [5].

The clinical findings of chronic appendicitis are similar to those of acute appendicitis, but with a longer duration, less intensity, and less pain. They usually persist for a longer than typical period, 1-2 days in acute appendicitis, especially for more than seven days of evolution, even without significant clinical, laboratory or imaging data of inflammation. On various occasions, the clinical manifestations can extend for weeks, months or years, with episodic and recurrent pain [6]. Normally, laboratories will show normal or slightly elevated leukocyte levels, with no shift to the left [6].

The abdominal tomography shows an increase in appendicular diameter >5-7mm, thickened wall, periappendicular fat striation, cecal mass effect, phlegmon and free fluid. In patients with an appendicular diameter > 9mm without signs of peritoneal irritation or leukocytosis, chronic appendicitis should be suspected; however, there is no laboratory or imaging study that can establish the diagnosis of chronic appendicitis other than the histopathological study [3, 6].

The presence of a mixed inflammatory infiltrate with the presence of reactive mature lymphocytes, plasma cells, foamy histiocytes and abundant polymorphonuclear cells can be identified [6].

Contrary to acute appendicitis, chronic appendicitis is not considered a surgical emergency, diagnosis is usually delayed. Parasitic infection of the appendix is rare. The most common parasites reported are *Enterobius vermicularis*, *Schistosoma* spp, *Taenia* spp, Ascaris lumbricoides [7]. In a retrospective study of 660 patients, a parasitic etiology was found in 12 cases, corresponding to 1.8% of cases, of which 75% were found to be *Enterobius vermicularis* and 25% were to *Taenia saginata* [7].

Hassan *et al*. states that *Enterobius vermicularis* infection during the histopathological study of appendectomy products is an incidental finding and states that there is no relationship between appendicitis and *Enterobius vermicularis* [8]. It has been described that *Enterobius vermicularis* is present in the intestinal tract of children worldwide in 4-28%, taking into account that tropical sites are highly prevalent [9].

Another retrospective study by Gumus *et al*, collected 14,797 cases of appendicitis in a period of 10 years, identifying 268 cases with the presence of parasites corresponding to 1.8%, with Enterobius vermiculares being the main microorganism, in terms of the predominant population being pediatric, concluding 2.85%, vs. 1.1% adult, there was no predominance in terms of gender, the relationship between the *Enterobius vermicularis* finding and the presence of acute appendicitis was 31.7% [10].

Another factor to consider is the socioeconomic level, the study of systematic review and meta-analysis by Taghipour *et al*, observed the geographical variation with the prevalence of *Enterobius vermicularis* and the cases of appendicitis. They found a proportional relationship between the prevalence of this parasite in countries with a low development index than in developed countries [11].

There is very little evidence that the etiological agent of chronic appendicitis is of parasitic origin; however, in 2010 Erasmus MC described a case report with a picture of chronic appendicitis, where the presence of Enterobius vermiclaris was later confirmed by the pathology department in his interior as well as chronic inflammatory changes of the cecal appendix [12]. Subsequently, in 2015, a retrospective study was carried out where 1,970 slides were obtained from the product of appendectomies, describing 59 slides with unusual findings, including parositosis, 11 slides corresponding to 18.6% [5].

Conclusion

Most of the studies affirm that there is no relationship between the presence of parasitism with the appearance of acute appendicitis; however, the presence of a parasite within an appendix described with chronic changes can be related and be the etiological cause of the condition. Nevertheless, its incidence is low as the cause of chronic appendicitis. Therefore, this work opens the opportunity to continue studying and collecting a greater number of cases of chronic appendicitis and parasitosis to know its incidence and if it is a determinant of chronic appendicitis or will continue as a finding only.

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Conflict of Interest

Not available

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Not available

References

1. Kanat BH, Solmaz ÖA, Bozda P, Do S, Kutluer N, Kurt F, *et al*. Chronic appendicitis: the process from pre-diagnosis to pathology.
2. Almansouri O, Algethmi AM, Qutub M, Khan MA, Mazraani N. A 61-Year-Old Male With Chronic Appendicitis: A Case Report. Cureus. 14(12):e32130.

3. Holm N, Rømer MU, Markova E, Buskov LK, Hansen ABE, Rose MV. Chronic appendicitis: two case reports. J Med Case Reports. el 9 de febrero de. 2022;16(1):51.
4. Lee CK, Pelenyi SS, Fleites O, Velez V, Alaimo KL, Ramcharan DN, *et al*. Chronic Appendicitis, the Lesser-Known Form of Appendiceal Inflammation: A Case Report. Cureus. 13(11):e19718.
5. Dincel O, Göksu M, Türk BA, Pehlivanoğlu B, İşler S. Incidental Findings in Routine Histopathological Examination of Appendectomy Specimens; Retrospective Analysis of 1970 Patients. Indian J Surg. el 1 de febrero de. 2018;80(1):48-53.
6. Camacho-Aguilera JF, Herrera-Morales JM. Apendicitis crónica, un caso de un dilema no resuelto. Cir Gen. 2021;43(4):243-7.
7. Altun E, Avci V, Azatçam M. Parasitic infestation in appendicitis. A retrospective analysis of 660 patients and brief literature review. Saudi Med J. marzo de. 2017;38(3):314-8.
8. Hasan A, Nafie K, El-Sayed S, Nasr M, Abdulmohaymen A, Baheeg M, *et al*. *Enterobius vermicularis* in appendectomy specimens; Clinicopathological assessment: Cross sectional study. Ann Med Surg. el 28 de octubre de. 2020;60:168–72.
9. Zakaria OM, Zakaria HM, Daoud MY, Al Wadaani H, Al Buali W, Al-Mohammed H, *et al*. Parasitic infestation in pediatric and adolescent appendicitis: a local experience. Oman Med J. marzo de. 2013;28(2):92-6.
10. Gümüş S, Söğütçü N. Parasitic Appendicitis in 14.797 Cases: A Retrospective Cohort Study. Turk Parazitolojii Derg. el 7 de junio de. 2021;45(2):113-6.
11. Taghipour A, Olfatifar M, Javanmard E, Norouzi M, Mirjalali H, Zali MR. The neglected role of *Enterobius vermicularis* in appendicitis: A systematic review and meta-analysis. Ho PL, editor. PLOS ONE. el 23 de abril de. 2020;15(4):e0232143.
12. Ramsaransing AS, Postema RR, Simons JL. A Case of Chronic Appendicopathy Caused by Parasitic Infection. Case Rep Gastroenterol. EL 20 de septiembre de. 2010;4(3):397-8.

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