Primary rectal syphilis mimicking rectal tumor

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ABSTRACT

Introduction: Syphilis is a sexually transmitted disease with a raising incidence.
Case description: 18-year-old male with an inflammatory rectal pseudo-tumor. After diagnosis, antibiotic therapy was administered with uneventful recovery.
Discussion: Rectal syphilis is a rare condition, with particular endoscopic and imaging findings that allow differentiation from rectal malignancy. Direct visualization of *Treponema pallidum* with immunohistochemistry staining confirms the diagnosis.
Conclusion: Syphilitic proctitis must be suspected among high-risk patients with atypical rectal tumors. Active management of sexual partners is crucial for early diagnosis and treatment.
***Key words**: syphilis, proctitis, pseudo-tumor*

INTRODUCTION

Syphilis is an infectious disease caused by the bacteria Treponema pallidum (spirochete) and is transmitted by direct contact. Its incidence has increased up to 3 times in recent years, particularly in men who have sex with men, whether or not they are carriers of the human immunodeficiency virus (HIV), although the association between both pathologies is very frequent, up to a 30-40%.[1]
We report a case of primary rectal syphilis (syphilitic proctitis), a rare occurrence of the disease, particularly in its pseudotumoral presentation.

CASE

An 18-year-old male patient, with multiple sexual partners and unprotected anoreceptive intercourse, with no other relevant clinical history, consulted for proctalgia, rectal bleeding, and tenesmus of 2-week duration. The proctological examination highlights the absence of perianal lesions and the digital rectal examination reveals immediately above the rectal ring a circumferential tumor that bleeds easily, firm, not very mobile, somewhat painful, whose proximal edge cannot be reached.
Colonoscopy shows a circumferential thickening of the rectal wall up to 10 cm from the anal verge, with soft mucosa, distensible to insufflation, intensely congestive with some superficial ulcerations covered with fibrin (Fig. 1A), mamelonated near the anal canal (Fig. 1B).
Magnetic resonance imaging (MRI) of the pelvis shows regular and uniform thickening of the rectal wall, hypointense on T2, and multiple mesorectal nodes (Fig. 2). HIV and VDRL tests were negative, while the endoscopic biopsy showed the presence of spirochetes using an immunohistochemical technique (Fig. 3), confirming the diagnosis of rectal syphilis.
Treatment was carried out by administering benzathine penicillin G 2.4 million IU weekly for 3 weeks. There was a good clinical response with resolution of symptoms and complete remission of endoscopic lesions. Fig. 4 shows the endoscopic appearance of the rectum after treatment.

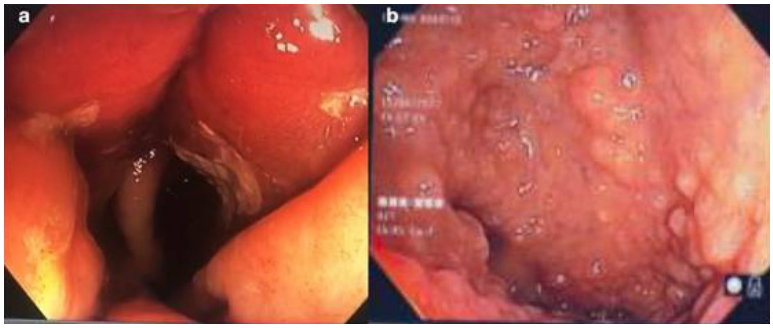

Figure 1. *Endoscopic appearance of the rectal lesion.* ***A.*** *Parietal thickening.* ***B.*** *Mamelonated mucosa.*

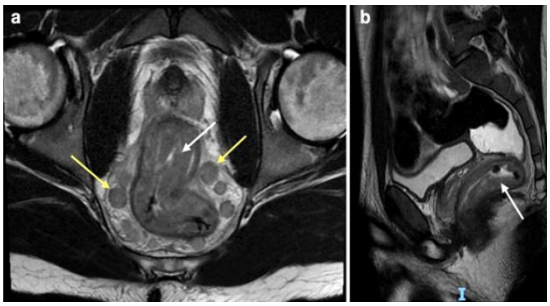

Figure 2. *MRI.* ***A.*** *Axial section.* ***B.*** *Sagittal section. Rectal parietal thickening (white arrows) and mesorectal enlarged lymph nodes (yellow arrows).*

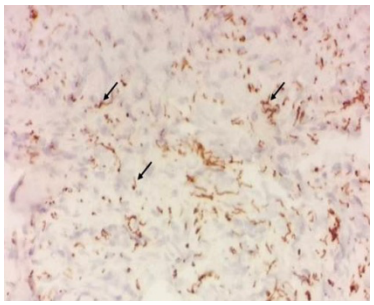

Figure 3*. Immunohistochemistry. Spirochetes are identified (arrows).*

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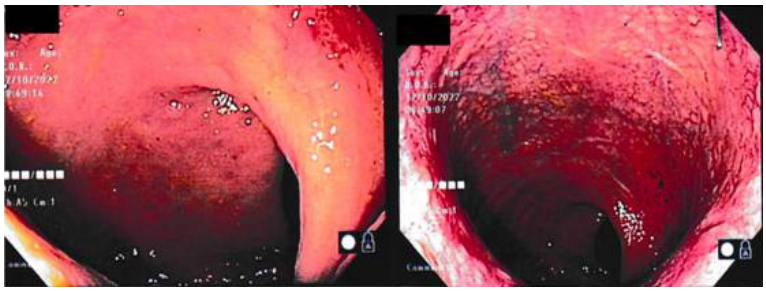

Figure 4. *Colonoscopy after treatment. Complete remission of the lesions.*

DISCUSSION

Sexually transmitted infections represent a global health problem, with an estimated 374 million cases worldwide, according to WHO figures from 2020.[2] In particular, syphilis is a systemic disease with very varied clinical manifestations, which depending on its evolutionary stage include ulcerated cutaneous-mucosal lesions, rash, enlarged lymph nodes and neurological involvement.[3]

After infection through anal sexual contact, the disease may be asymptomatic or present clinical manifestations between 2 and 10 weeks later. Particularly in the anorectum, ulcers (syphilitic chancre), proctitis or masses mimicking neoplastic tumors can be found.[4] Lesions can heal after several weeks even without treatment, giving rise to the second stage or secondary syphilis, characterized by a palmoplantar rash, fever, rectal masses and/or condylomata lata, the latter being extremely contagious. Again, these manifestations may disappear without specific treatment after 3 to 12 weeks. The majority of patients will evolve to a form of the disease called "latent" syphilis,[5] only detectable through laboratory tests, and 10-15% will present manifestations up to 20-30 years later, especially neurological ones, which constitute tertiary syphilis.

The clinical presentation in our patient is the pseudotumoral form. Some elements of the endoscopic study and MRI allow us to differentiate this entity from a rectal neoplasia, such as the presence of intensely inflamed mucosa, parietal distensibility with insufflation, uniform thickening and absence of hyperintensity on diffusion images, the latter typically present in adenocarcinomas and mucinous carcinomas.[6] Even so, diagnostic doubts may persist, especially to rule out rectal lymphoma, which is why biopsy plays a fundamental role.

Serological diagnosis is based on the combination of a *treponemal* and *non-treponemal tests*. The usual *non-treponemal* test is the VDRL, which was negative in our patient. This is not uncommon, especially in cases of primary syphilis. Likewise, there are also false positive results, particularly when there is HIV co-infection -ruled out in the patient- or during pregnancy.[7]

Among *non-treponemal tests,* many are available, such as the Absorbed Fluorescent Treponemal Antibodies test, but they are not always used, as other direct diagnostic methods exist.

In the present case, the diagnosis was made by immunohistochemical test from the endoscopic biopsy of the mucosa, demonstrating the spirochetes using a chromogen.

Treatment consists of benzathine penicillin G 2.4 million units intramuscularly, once a week, for 3 consecutive weeks.[8]

The response is evaluated clinically and by serology, when it was initially positive. In this case, clinical and endoscopic control was also performed, which showed complete resolution of the rectal lesion.

Of equal importance is the tracing and study of possible contacts to detect the infection early and proceed to treatment, in order to avoid new infections and the progression of syphilis to late stages, with the morbidity that this entails.

CONCLUSION

Rectal syphilis is a rare entity and should be suspected in the presence of a rectal mass with atypical characteristics, especially in high-risk population such as the case analyzed. Identification of contacts is essential to detect infection in early stages and provide timely treatment.

ACKNOWLEDGEMENT

We thank Dr. Elisa Laca, pathologist, for the photographic material provided.

REFERENCES

1. Ren M, Dashwood T, Walmsley S. The intersection of hiv and syphilis: update on the key considerations in testing and management. *Curr HIV/AIDS Rep.* 2021;18(4):280-88.
2. World Health Organization (WHO). Infecciones de transmisión sexual. Nota descriptiva. Available at: https://www.who.int/es/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis)
3. Svidler López L. Manifestaciones clínicas de las Infecciones de transmisión sexual ocasionadas por *Chlamydia trachomatis, Neisseria gonorrheae* y *Treponema pallidum*. Presentación casuística. *Rev Argent Coloproct*. 2019;30(4):80-7.
4. Svidler López L, La Rosa L. Infecciones transmisibles sexualmente que afectan colon, recto y ano. El rol del cirujano, entre mitos y tabúes. Relato anual. *Rev Argent Coloproct*. 2022;33(4):1-97.
5. Assi R, Hashim PW, Reddy VB, Einarsdottir H, Longo WE. Sexually transmitted infections of the anus and rectum. *World J Gastroenterol.* 2014;20(41):15262-68.
6. Chen XQ, Tan BG, Xu M, Zhou HY, Ou J, Zhang XM, et al. Apparent diffusion coefficient derived from diffusion-weighted imaging to differentiate between tumor, tumor-adjacent and tumor-distant tissues in resectable rectal adenocarcinoma. *Eur J Radiol.* 2022;155:110506.
7. Workowski KA, Bolan GA; Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines, 2015. *MMWR Recomm Rep.* 2015;64(RR-03):1-137.
8. Tuddenham S, Hamill MM, Ghanem KG. Diagnosis and treatment of sexually transmitted infections: A review. *JAMA.* 2022;327(2):161-72.