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LETTER TO THE EDITOR

The pathologist's perspective in the differential diagnosis between Crohn's disease and intestinal tuberculosis☆

La visión del patólogo en el diagnóstico diferencial entre la enfermedad de Crohn y la tuberculosis intestinal

To the Editors:

I read the article ''Tuberculosis and Crohn's disease – a challenging endoscopic diagnosis. A case report'' analytically and with interest. According to the different epidemiologic data, tuberculosis (TB) continues to be a prevalent disease in developing countries and the number of cases has risen in developed countries due to the increase in immunocompromised patients and to immigration. The differential diagnosis between Crohn's disease (CD) and intestinal tuberculosis (ITB) is a challenge for specialists that study them from the clinical, endoscopic, imaging, and anatomopathologic perspectives.[1]

Both diseases share characteristics, among which symptomatology and a preference for distal ileum involvement stand out, affecting 90% of the patients with ITB and 80% of the patients with CD. Another shared characteristic from the pathologist's perspective is that both are included in the granulomatous enteritis group.[2]

The final diagnosis of the two entities mainly depends on the pathologic anatomic study, which also presents with certain challenges for distinguishing them, given that they share a considerable number of histologic characteristics. Among them are the architectonic findings (crypt distortion, nonparallel crypts, varying diameters or cystically dilated crypts, crypt branching into more than 2 branched crypts, crypt shortening, reduced crypt density, and irregular mucosal surface) and inflammatory ones (focal/patchy inflammation, basal plasmacytosis, increase in intraepithelial lymphocytes, transmucosal inflammation, focal cryptitis, aphthous ulcers, disproportionate submucosal inflammation, nerve fiber hyperplasia, proximal location of ulceration and architectural distortion, metaplasia [pseudopyloric in the ileum and Paneth cell in the colon], and granulomas).[3]

Nevertheless, despite the difficulties, there are histologic criteria that enable adequate distinction that are essentially based on the granulomas found. In ITB, granulomas tend to be larger and have central caseation, a submucosal location, granulomatous involvement of the surrounding lymph nodes with no mucosal compromise, disproportionate inflammation of the submucosa, and ulcers with a band-like histiocytic infiltrate. With respect to CD, the findings include architectural distortion distant from the granulomatous inflammation, improved focal colitis, and muscular obliteration of the mucosa.[4]

In some cases, despite the pathologist's knowledge, accurate diagnosis cannot be made through conventional staining techniques, and so there must be adequate correlation between the clinical history of the patient and the histologic findings. The treating physician should make that correlation, with emphasis on the endoscopic and imaging findings, the results of serologic and sputum tests, and the clinical symptoms of the patient. Cultures for the *Mycobacterium* species, polymerase chain reaction for mycobacteria, and histochemical staining for acid-alcohol-fast bacilli (Ziehl-Neelsen) are further aids for making the diagnosis.[5]

Complementing the authors' experience, carrying out a communicative multidisciplinary approach to patients with suspected ITB or CD is pertinent for their comprehensive management. It should involve all the specialists providing patient care so that the accurate diagnosis is made, positively impacting the recovery of those patients.

Ethical considerations

Informed consent was not required of the patients. This letter is a response to a published article and requires no approval by an ethics committee. The author declares that the present article contains no personal information that could identify patients.

Financial disclosure

No financial support was received in relation to this article.

Conflict of interest

The author declares that there is no conflict of interest.

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Response to Montes-Arcón regarding ''Tuberculosis and Crohn's disease — a challenging endoscopic diagnosis. A case report''

Respuesta a Montes-Arcón sobre «Tuberculosis y enfermedad de Crohn. Desafío en el diagnóstico endoscópico. Reporte de caso»

Dear Editor,

We appreciate the interest Dr. Montes-Arcón showed in our case report, ''Tuberculosis and Crohn's disease – a challenging endoscopic diagnosis''[1]. The primary aim of presenting our case was to provide evidence of and review the clinical and endoscopic characteristics of the two entities. Even though they have similarities, several of their differences should be underlined to help distinguish one from the other, both clinically and during the endoscopic procedure, to aid clinical gastroenterology specialists in making the accurate diagnosis, while in no way devaluing the role of other physicians that make up the multidisciplinary team managing the two diseases.

The role of the pathologist in the approach to the two entities is undeniable and we share the belief that the definitive diagnosis depends on the analysis of the pathologic anatomy. We recognize the challenge involved in that analysis, given that the two diseases share a considerable number of histologic characteristics that include architectural anomalies (crypt distortion, non-parallel crypts, variable diameters or cystically dilated crypts, crypt branching that involves more than 2 branched crypts, crypt shortening, reduced crypt density, and irregular mucosal surfaces) and inflammatory features (focal/patchy inflammation, basal plasmacytosis, increase in intraepithelial lymphocytes, transmucosal inflammation, focal cryptitis, aphthous ulcers, disproportionate submucosal inflammation, proximal location of the ulceration and architectural distortion, pseudopyloric metaplasia in the ileum, Paneth cell metaplasia in the colon, and granulomas)[2,3].

However, despite the difficulties, there are some histologic criteria that enable an adequate distinction to be made, based on the granulomas found. In intestinal tuberculosis, granulomas tend to be larger, have a central formation of caseous tissue, are located in the submucosa, have granulomatous non-mucosal involvement of the surrounding lymph nodes, disproportionate inflammation of the submucosa, and linear ulceration with clusters of epithelioid histiocytes. With respect to Crohn's disease, the findings included architectural distortion at a distance from the granulomatous inflammation, focally improved colitis, and muscular obliteration of the mucosa[3,4].

Clinical, endoscopic, and imaging differentiation is of great use to the pathologist, when despite his/her analysis, the entities cannot be distinguished, or a definitive diagnosis made. Thus, said differentiation aids in guiding the diagnosis. Other techniques, such as *Mycobacterium* species cultures, polymerase chain reaction testing for mycobacteria, and histochemical staining for acid-alcohol-fast bacilli (Ziehl-Neelsen) can also be useful[3,5].

We agree that the approach to the patient suspected of presenting with intestinal tuberculosis versus Crohn's disease is a multidisciplinary one, and the majority of times involves gastroenterologists, general surgeons, imaging specialists, anatomopathologists, and others.

Ethical considerations

The authors declare that they met all the ethical responsibilities regarding data protection, the right to privacy, informed consent.

Authorization by the institutional ethics committee was not needed because at no time were patient anonymity norms not met or violated, and no experimental procedures were performed that could endanger the patient.

The authors declare that this article contains no personal information that could identify patients.

☆ Aguirre-Padilla LM, Madrid-Villanueva BE, Ugarte-Olvera ME, Alonso-Soto J. Respuesta a Montes-Arcón sobre «Tuberculosisy enfermedad de Crohn. Desafío en eldiagnóstico endoscópico. Reporte de caso». Rev Gastroenterol Méx. 2022;87:399–400.