Intestinal spirochetosis

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ABSTRACT: The intestinal spirochetosis (IS) is a histologically defined by the presence of spirochetal microorganisms connected to the apical cell membrane of the colorectal epithelium. The disease is caused by a heterogeneous group of bacteria. In humans, Brachyspira aalborgi and Brachyspira pilosicoli are prevalent. The incidence ranges from 1% in developed countries to 34% in poorer areas. It affects 62.5% of colonized areas, as well as men who have intercourse with men (MSM) and those with the human immunodeficiency virus (HIV) infected. Clinical significance of such colonization is still not clear. Most infected people are asymptomatic. At the presence of gastrointestinal symptoms, treatment with metronidazole is effective. Due to unknown reasons, MSM and HIV-positive men are more likely to be symptomatic.

The microorganism spreads by the fecal-oral route, and colonization depends on sanitation, diet, behavior and immunological status. Chronic fecal stasis also favors multiplication⁴. Fecal colonization with spirocheta, however, is not common³,⁵ in the population, and its incidence ranges from 1% in developed countries to 34% in the developing countries, affecting up to 62.5% of men who have intercourse with HIV positive men³,⁵. There seems to be no relation between the degree of immunodeficiency and the extension of the infection³. The increased incidence in this specific population suggests the sexual transmission of the agents³, besides the previously described routes.

The method of choice for diagnosis is the colorectal mucosa biopsy⁴. The colonoscopic appearance varies from normal to moderate edema, erythema, erosions or small ulcers⁴. Hematoxylin eosin staining shows a thick layer of basophilic organisms covering the mucous surface, thus generating a false brush border⁴. There is rarely the invasion of the lamina propria. Colonization is not associated with a significant inflammation. Microorganisms can be revealed by using the periodic acid-Schiff

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(PAS), Giemsa, Croccots and silver. Immunohistochemical tests with anti-Treponema pallidum antibodies, which present a cross reaction with Brachyspira spp, have been used to identify the agent. The polymerase chain reaction (PCR) and in situ hybridization detect bacteria in the stool and in the biopsy specimens.

Generally, it is asymptomatic and detected by the colorectal mucosal biopsy. A few patients present with aqueous diarrhea, weight loss, abdominal pain and rectal bleeding. The increased incidence of spirochaeta was observed in appendicectomy specimens of patients who had typical symptoms and signs of acute appendicitis, however, with no inflammation at histopathological evaluation.

The clinical significance of intestinal spirochetos is little known, and widely reported in veterinary studies. Bacteria of the Spirochaetaceae family are considered as commensal in humans, and are usually incidentally found in intestinal mucosal biopsies, thus not being related to the referred symptoms. However, asymptomatic patients can be safely followed-up, but the symptomatic and immunodepressed ones can be treated with metronidazole 500 mg three times a day, or clarithromycin 800 mg every day, for ten days. Most report relief of symptoms and recurrence is rare.

Secondary syphilis may cause similar symptoms. The intestinal mucosa biopsy shows granulomatous colitis. Personal history can show unprotected sex and other forms of the disease in the skin (roseola syphilitica) or anogenital lesions (primary or secondary). Syphilis is known as the “great impersonator”, and may simulate different impacts on all the organs and systems. Proper diagnosis, treatment and follow-up prevent complications. For the HIV-positive patients, it causes the increase of viral load and the decrease of CD4 lymphocytes, which are reversed after treatment with penicillin.

Colitis caused by spirochaeta is rare, but should be part of the differential diagnosis of infectious diarrhea in immunocompromised patients, especially among those who have anal sex. Secondary syphilis with colorectal location should be ruled out for presenting similar symptoms, because the treatment is different and the complications of the untreated disease are severe, permanent and disabling.

RESUMO: A espiroquetose intestinal está definida histologicamente como a presença de micro-organismos da família Spirochetaceae ligadas ao ápice das células do epitélio cólico. A doença pode ser provocada por um grupo heterogêneo de bactérias. Em humanos, a Brachyspira aalborgi e a Brachyspira pilosicoli predominam. A incidência varia desde 1%, nos países desenvolvidos, até 34% nas áreas mais pobres, atingindo taxas de colonização de 62,5%, em homens que fazem sexo com homens (HSH) e vírus da imunodeficiência humana (HIV) positivo. O significado clínico dessa colonização ainda é incerto e a maioria dos infectados permanece assintomática. Quando há sintomas gastrointestinais, o tratamento com metronidazol é efetivo. Por razões desconhecidas, HSH positivos para o HIV, apresentam mais infestação sintomática. A infecção pelo Treponema pallidum deve ser excluída, pois os tratamentos são diferentes e as complicações por essa última são mais graves e definitivas.

Palavras-chave: infecções por spirochaetae; colite microscópica; infecção bacteriana intestinal; infecções por HIV.

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