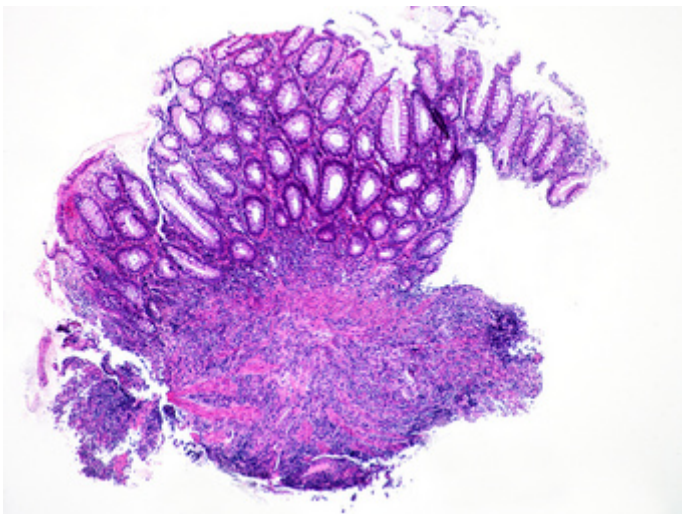
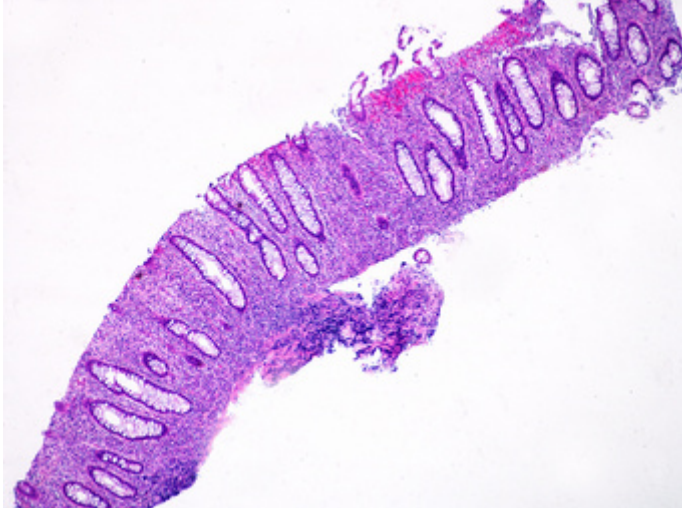
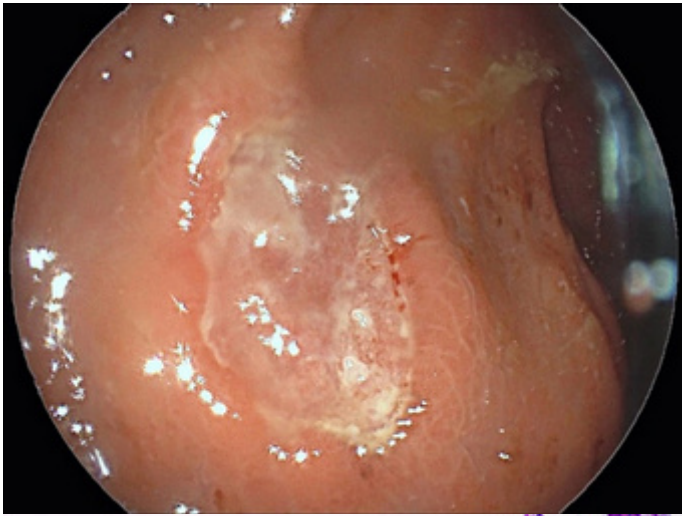
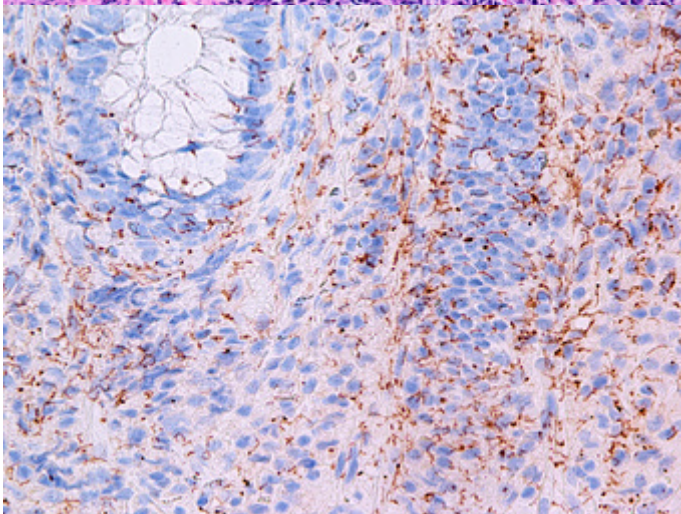
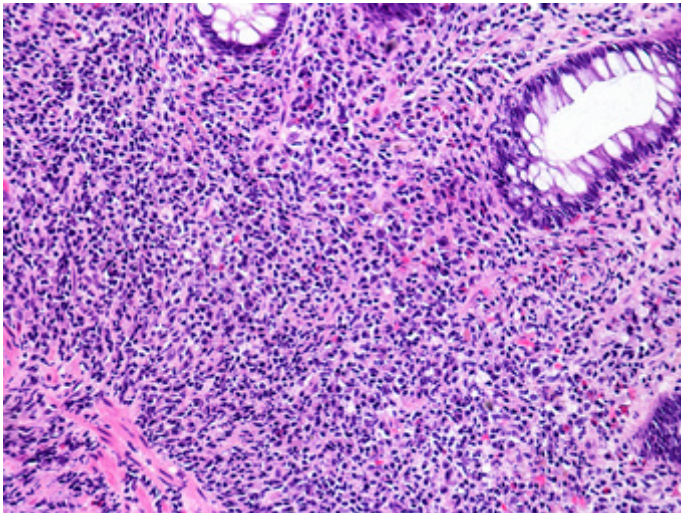
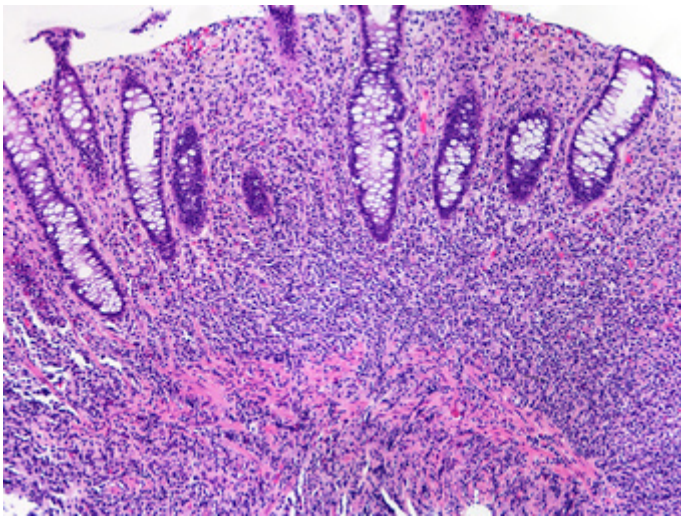


October 2019

Rectal biopsy from a 33-year-old male with rectal bleeding.

What is your diagnosis?





Diagnosis:

Syphilitic proctitis in an HIV-positive male.

Comment:

Endoscopically, mucosa in the distal rectum was red, indurated, with ulcers and erosions (Panel A). Microscopically, it shows preserved crypt architecture, intensive lymphoplasmacytic and focal active inflammation of the lamina propria and submucosa (Panels B-E). Immunohistochemistry shows positive reaction for *Treponema pallidum* on the surface, in the lamina propria and glands (Panel F). Subsequent serological tests confirmed infection with *Treponema pallidum* and HIV.

Syphilis is a sexually transmitted disease, caused by *Treponema pallidum*. It is characterized by various clinical and pathologic manifestations, therefore regarded as one of the great mimickers. A significant increase in the incidence of syphilis has been reported around the world, including many European countries in the last decade. The populations at highest risk are those with high risk sexual behaviour, particularly men who have sex with men, and HIV-positive persons.

In the GI tract, syphilis most commonly affects the anorectal mucosa and the stomach. Macroscopic features are nonspecific and include erythema, ulcers, and tumour-like lesions, resembling various conditions, e.g., other infections, solitary rectal ulcer syndrome/mucosal prolapse, inflammatory bowel disease (IBD) and rarely, carcinoma. Microscopic features are also non-specific. In the colorectal mucosa, there is usually intensive lymphoplasmacytic infiltration of the lamina propria and submucosa, with prominent plasma cell infiltration in the submucosa. Occasionally mild cryptitis may be present, thus mimicking IBD. Morphologic features favouring the diagnosis of syphilis are: (a) lack of prominent active chronic crypt damage (cryptitis, crypt abscesses, architectural distortion, Paneth cell metaplasia); (b) lack of mucosal eosinophilia, (c) the presence of submucosal and perivascular plasma cells. In contrast, features favouring the diagnosis of IBD are: (a) prominent active chronic crypt damage, (b) mucosal eosinophilia, and (c) submucosal inflammation rich in lymphocytes and histiocytes.

Treponema can be demonstrated in tissue using silver impregnation stains (Warthin-Starry, Dieterle) and immunohistochemistry, which is more sensitive but must be interpreted with caution, as spirochetes are also present in the normal gut microbiota and in intestinal spirochetosis (see ENGIP case of the month, March 2014). The diagnosis of syphilis must be confirmed by serology.

Syphilis and other sexually transmitted infections continue to rise. It is therefore important to recognize associated morphologic patterns, to ensure the correct diagnosis and proper treatment and to prevent the onward transmission of infections.

For further reading:

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- › Jawale R, Lai KK, Lamps LW. Sexually transmitted infections of the lower gastrointestinal tract. *Virchows Arch.* 2018; 472: 149–158.
- › Peeling RW, Hook EW 3rd. The pathogenesis of syphilis: the Great Mimicker, revisited. *J Pathol.* 2006; 208: 224–232.
- › Voltaggio L, Montgomery EA, Ali A, et al. Sex, lies and gastrointestinal tract biopsies: a review of selected sexually transmitted proctocolitides. *Adv Anat Pathol.* 2014; 21: 83–93.

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