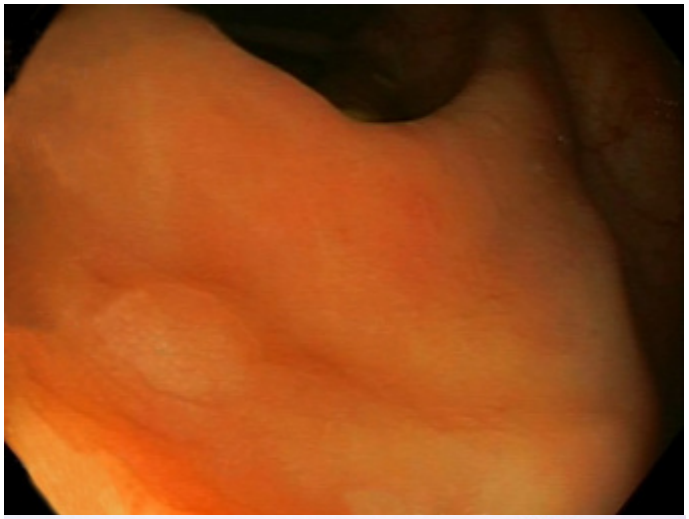
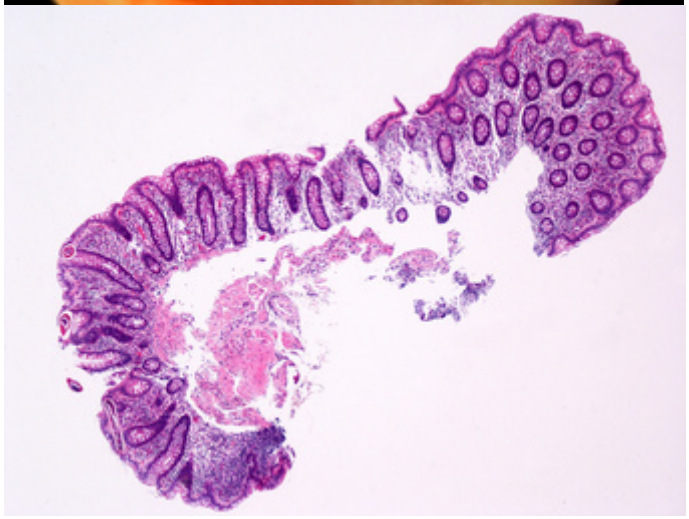
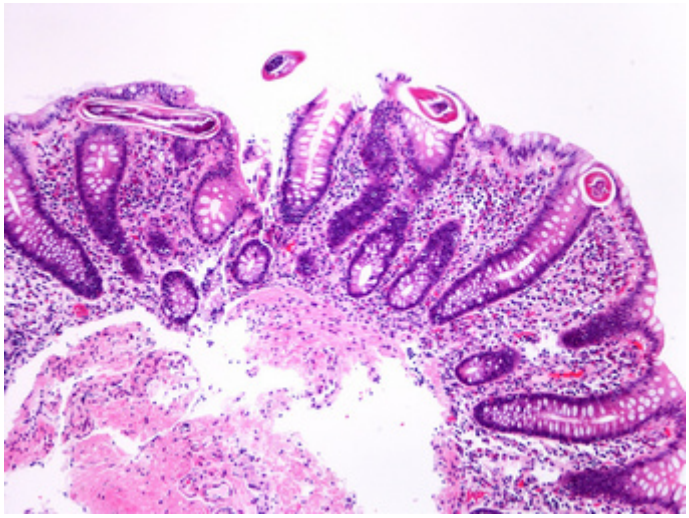
August 2018

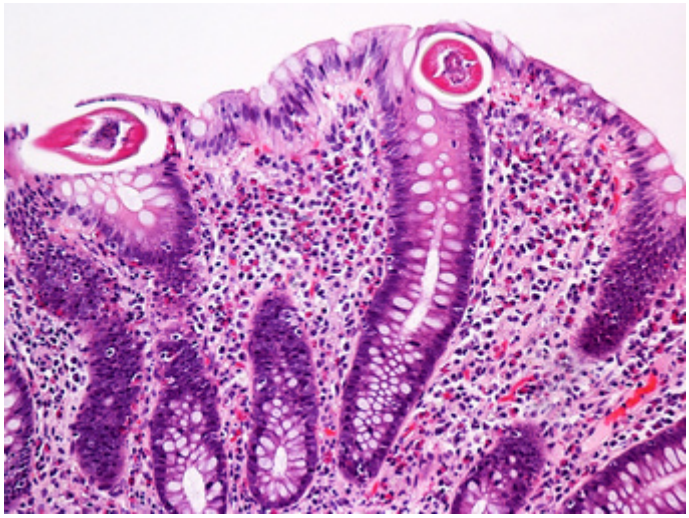
A 66-year-old woman with a small polyp in the ascending colon.

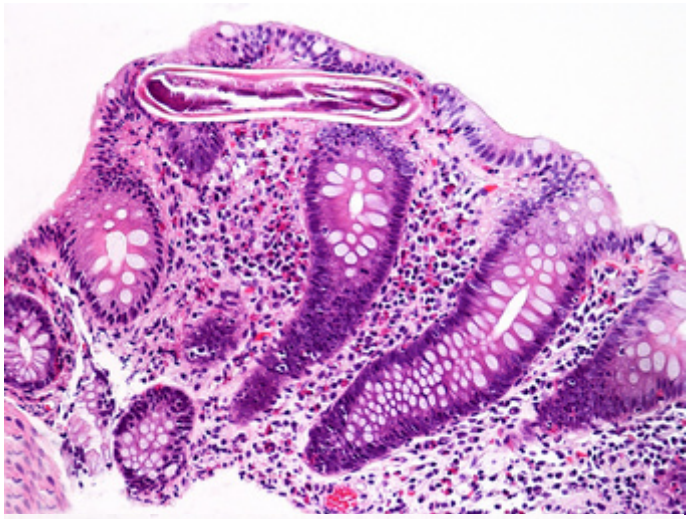
What is your diagnosis?

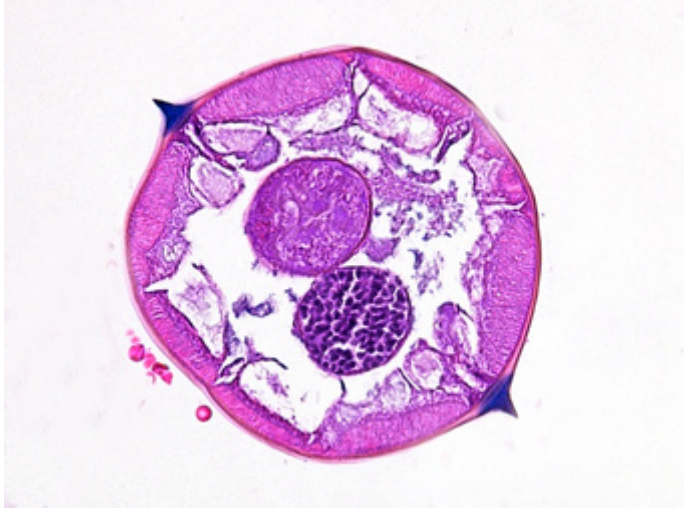












Diagnosis:

Infection with Enterobius vermicularis (Enterobiasis), with mucosal invasion.

Comment:

A small polyp, measuring 3 mm, was found on screening colonoscopy in a 66-year-old healthy woman (Panel A). Microscopically, lamina propria shows a mild increase in infiltration with eosinophils (Panels B-E). Worms are present in the surface and crypt epithelium and in the lamina propria (Panels B-E). They can be recognized by their typical appearance, with clearly visible internal organs, thick cuticle and prominent lateral ala (Panel D).

Enterobius vermicularis, also known as pinworms or threadworms, is one of the most common human parasites. Infection occurs primarily by the fecal-oral route. Adult worms live and reproduce in the ileum, proximal colon and appendix. Adult female worms measure 6 to 12 mm and males 2 to 5 mm in length and are visible to naked eye. Female worms migrate to anus to lay eggs and die. The eggs cause intense irritation, resulting in anal pruritus. The intense itching leads to contamination of the fingers and promotes transmission.

Infection with enterobius is harmless in the vast majority of cases, usually with no tissue reaction, though mild infiltration with eosinophils or even granuloma formation may occur. Clinically, most infections are asymptomatic or present with anal pruritus. Occasionally, pinworms have been found to be associated with enterocolitis, enterocutaneous fistula, urinary tract infections, mesenteric abscesses, cholecystitis, vulvovaginitis and salpingitis. Extraintestinal migration with ectopic enterobiasis is associated with greater morbidity and even a fatal outcome has been reported due to visceral perforation and secondary abdominal sepsis.

Pinworms are found in up to 30% of the resected appendices. Their role as a cause of acute appendicitis has been controversial. They are usually present in the lumen, but with no inflammatory response. It appears that obstruction of the lumen by worms may result in acute inflammation.

Enterobiasis can be successfully treated with mebendazole.

For further reading:

- Dick L, Hannay J. Enterobius vermicularis presentation during laparoscopic cholecystectomy. J Surg Case Rep. 2017; 2017(1).
- Fleming CA, Kearney DE, Moriarty P, Redmond HP, Andrews EJ. An evaluation of relationship between Enterobius vermicularis infestation and acute appendicitis in a paediatric population - a retrospective cohort study. Int J Surg. 2015; 18: 154-158.
- Lamps LW. Infectious causes of appendicitis. Infect Dis Clin North Am. 2010; 24: 995-1018.
- Serpytis M, Seinin D. Fatal case of ectopic enterobiasis: Enterobius vermicularis in the kidneys. Scand J Urol Nephrol. 2012; 46: 70-72.
- Sinniah B, Leopairut J, Neafie RC, Connor DH, Voge M. Enterobiasis: a histopathological study of 259 patients. Ann Trop Med Parasitol. 1991; 85: 625-635.

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