

Clinical Challenge 7:

A 16 year old boy was referred to your clinic with one month history of mild fresh rectal bleeding. Stools were reported to be formed and there was no increased frequency of bowel opening. There were no other gastro intestinal symptoms. The boy did not report any history of weight loss or mouth ulcers. He is very athletic and a keen swimmer and footballer. He was selected for the under-16 football team from his school and they have played in a tournament in Brazil earlier this year. He also had no significant past medical history and was not on any regular medications. His grandfather had cancer of the prostate; however no colonic polyposis or bowel cancer was reported. On examination his abdomen was soft and non tender with no palpable masses. Blood tests done by the GP showed normal full blood count, renal and liver function tests and normal CRP and ESR.

After the consultation, the boy had come back to your room alone and told you that he is very much worried about cancer. He also reported history of noticing blood in the semen for the last five months. He also told that he drinks alcohol time to time with his friends; however his parents do not know this. There is no history of smoking. Urine examination showed WBC and nitrites, but the culture did not grow any organism. A semen culture was negative as well. At colonoscopy, patchy cobblestone mucosal inflammation was seen in the rectum, no further mucosal abnormalities were seen in the terminal ileum or in the remaining parts of the colon. Biopsies from the rectum were diagnostic.

What is the diagnosis?

Answer to Clinical Challenge 7

The correct answer is **Schistosoma haematobium infection**. Congratulations to **Kornilia Nikaki from Bristol and Christos Tzivinikos from London** for getting the correct answer.

At colonoscopy, patchy cobblestone mucosal inflammation was seen in the rectum with no further mucosal abnormalities found at the terminal ileum and remaining parts of the colon. Histopathology demonstrated moderate chronic inflammation of the rectum and schistosome ova infiltration in the lamina propria . Travel history revealed that the patient swam in a fresh water lake in Brazil 6 months before presentation. On Ziehl–Neelson staining, the ova were demonstrated not to be acid fast, hence suggesting infection with *S haematobium* being the most likely causative organism. In the acute phase of infection, ova can be visualized on urine microscopy. In resource-poor settings, this is a fast, inexpensive way of diagnosis. Serologic tests are also available in cases of difficult microscopic detection. The treatment is an anti-helminthic. This patient has responded well to treatment.

More details and resources for further reading

Infection with *S haematobia* occurs through fresh water contact, typically leading to hematuria, which is caused by granulomatous reactions in the bladder wall, secondary to egg release from female worms residing in the pelvic veins and vesicle plexus. Hundreds to thousands of eggs can be released per day, which contain ciliated miracidia that secrete

proteolytic enzymes for migration into mucosal surfaces. The eggs can locally parasitize genital organs, including the seminal vesicles. However, pathologic intestinal involvement is not a typical feature of *S haematobium*; it is more commonly associated with other species of schistosomiasis, such as *S mansoni*. Nevertheless, to a lesser extent, distant spread can occur when ova of *S haematobia* are carried from its usual site into the inferior mesenteric veins and subsequently invade the appendix, colon, and rectum. Rectal involvement in *S haematobium* can be a common finding in endemic areas and may be utilized as a diagnostic site, where rectal biopsies compared with urinary cytology have been demonstrated to be more sensitive in chronic infections.

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- Badran, A., El-Alfi, O., Pfischner, W.C. et al. The value of routine rectal biopsy in the diagnosis of schistosomiasis. *Am J Trop Med Hyg*. 1955; 4: 1068–1071