Incidental Asymptomatic Schistosomiasis in a Familial Adenomatous Polyposis Patient and His Family

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Familial adenomatous polyposis (FAP) is an uncommon condition, and schistosomiasis is even more so in nonendemic areas. The incidental finding of both conditions, in an almost asymptomatic patient, was unexpected and recognized only by histologic examination, and then by screening his asymptomatic wife for schistosomiasis. It also led to questions about how they were infected and the appropriate therapy for this specific patient.

Case Report

The patient was a 36-year-old US-born male, living in Israel for 27 years, who had rectal bleeding, but was otherwise asymptomatic. He informed us that his father had “colonic polyps”, but no further information was available. Physical examination was normal other than for the presence of a scalp osteoma. Multiple colonic adenomatous and gastric fundic gland polyps were identified on colonoscopy and gastroscopy respectively, and the diagnosis of FAP was confirmed by mutation analysis. The patient underwent elective colectomy with an ileoanal J-pouch anastomosis. At follow-up, he was feeling well and adapted to his surgical procedure and to the clinical significance of his genetic diagnosis.

Routine histology of the resected colon demonstrated multiple adenomatous polyps, but multiple circumscribed lesions were also identified in the submucosa (fig.). The lesions were granulomas containing Schistosoma hematobium ova, identified by the presence of a terminal spine.

We were puzzled as to how a US-born immigrant to Israel could have become infected. On questioning, he told us that, on many occasions, he had trekked the Sinai Peninsula and, more recently, several African countries together with his wife. Ten years before the diagnosis of polyposis, they had visited Malawi, which is known to have fresh-water lakes heavily infested with Schistosoma.

Neither the patient nor his wife remembered being unwell on their trips, and, like us, they were surprised by the incidental finding of schistosomiasis in addition to the diagnosis of FAP. Both were advised to undergo further evaluation and treated. The results of liver and general blood tests were normal, as was abdominal ultrasound examination. The patient was sent for a urine examination for Schistosomiasis hematobium (negative) and determination of ELISA antibody levels, so that his response to therapy could be followed. The ELISA test also indicated that his wife was infected.

Because of the patient’s large bowel resection and resultant rapid bowel transit, he was advised to undergo 2 days of treatment with praziquantel (20 mg/kg × 2), rather than the standard 1-day therapy given to his wife (Bryceson A, personal communication, 13 November 2001). One year later, follow-up biopsies of the patient’s ileoanal pouch were free of Schistosoma. The wife continued to attend her family doctor, and reported that her blood and urine tests were normal. In both the patient and wife, the ELISA titer decreased in response to therapy.

Discussion

For over 50 years, schistosomiasis has not been endemic in Israel, as the host water snail is now not found there. It is found in the Arabian Peninsula, Nile Valley and Africa. Immigrants to Israel from Yemen, Sudan and now Ethiopia have been, and still are being, diagnosed with this infection. We rarely see this condition in Tel Aviv, although doctors dealing with Israeli travelers are now identifying it in visitors to endemic areas.
During their life cycle, the schistosome eggs penetrate the skin, enter the circulation, and eventually mature into adults, which migrate to mesenteric vessels and lay their eggs in the colonic and/or urinary bladder wall. The eggs stimulate an inflammatory response, and patients have an increased risk of bladder or colon cancer. There was no evidence of the latter in the patient's colectomy specimen, or clinical or laboratory evidence of bladder disease in either the patient or his wife.

This patient illustrates how uncommonly seen diseases may occur in adventurous young travelers, and we have to be aware of these possibilities in our ever-shrinking world and routinely obtain an accurate travel history. We could not identify a similar case report of schistosomiasis occurring in a mutation-proven patient with FAP.

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References
