Clinical Microbiology & Case Reports

ISSN: 2369-2111 Case Report

Veiled Presentation of Anorectal Schistosomiasis in a USA Resident

Maria Susana Maritato[1,2,3]*, Michael John Gale[4,5], Ismail Zahir[2,6] and Antonio Chua[2,7]

[1]Division of Infectious Diseases, Department Internal Medicine, Woodhull Medical Center, Brooklyn, 11206, New York, USA
[2]NYU Langone Medical Center, 550 First Avenue, New York, NY 11016, USA
[3]Assistant Professor, St. George's University, Grenada, West Indies
[4]Department of Hospice and Palliative Medicine, New York-Presbyterian Queens, 56-45 Main Street, Flushing, New York 11355, USA
[5]Former Assistant Chief Resident, Department Internal Medicine, Woodhull Medical Center, Brooklyn, 11206, NY, USA
[6]Department of Pathology, Woodhull Medical Center, Brooklyn, 11206, New York, USA
[7]Department of Surgery, Woodhull Medical Center, Brooklyn, 11206, New York, USA

This article was published in the following Scient Open Access Journal:
Clinical Microbiology & Case Reports
Received December 02, 2015; **Accepted** December 21, 2015; **Published** January 04, 2016

Abstract

Human schistosomiasis is a highly prevalent parasitic infection in many regions of the world. The pathology of the disease is due to egg- mediated immune response with granuloma formation, fibrosis, and occasional obstruction mainly in the gastrointestinal and hepatic territory. The eggs can disseminate to the brain, spinal cord, lungs, and genitals resulting in significant morbidity and mortality. We report the incidental finding of anorectal schistosomiasis in a USA resident originally from the Middle East. He presented with complaint of recurrent prolapsing hemorrhoids, impotence and infertility. Colonoscopy revealed internal hemorrhoids, which were surgically removed. The patient was also evaluated by endocrinology for impotence and infertility. Pathology of the anorectal junctional mucosa identified numerous mucosal granulomas with Schistosoma eggs.

Anorectal schistosomiasis has not been reported in the literature as a risk factor for hemorrhoids. It is not clear if it predisposes to the development of hemorrhoids or this was an incidental association. The patient also complained of erectile dysfunction and difficulty conceiving; genital involvement is not uncommon in endemic areas and bilharziasis should be added to the differential diagnosis in patients presenting with impotence or infertility. Unfortunately the patient was lost to follow up and could not be treated. Chronic Schistosomiasis is considered one of the most common neglected tropical diseases and it should always be suspected in the population at risk. This case raises awareness for physicians to be familiar with infectious diseases, especially in an immigrant population.

Keywords: Schistosomiasis, Helminthiasis-Intestinal, Parasitology, Tropical medicine, Emerging diseases

Case Presentation

We report the case of a 30 year old male originally from the Middle East who initially presented to the emergency room with complaints of perianal pain and frank bloody stools. He described intermittent bleeding per rectum for approximately 5 years and a sensation of tissues prolapsing through the anal verge during defecation, which he would manually push back. Past medical/surgical history was significant for having a colonoscopy and hemorrhoidectomy in his native country 10 years prior. He admitted tobacco and occasional marijuana use.

From the Emergency Department, the patient was referred to the ambulatory care service for follow up; colonoscopy revealed small internal hemorrhoids, no other mucosal lesions noted (Figures 1-3). The patient was also referred to Endocrinology due to inability to conceive for 9 years and impotence. He had children from a previous relationship, reported normal libido and desire for intercourse, however no morning erections, no galactorrhea or genital trauma. He did report a 3 year history of fatigue and depression with chronic constipation. Physical examination showed normal hair distribution, left testicle larger than the right testicle (18 cc and 10 cc respectively) with a left varicocele. No tenderness elicited or testicular lesions noted. Internal hemorrhoids were palpated on rectal exam; however no tenderness or blood appreciated on glove. Blood work revealed Hb 14.8 g/dL (Normal range 13-17 g/dL), Hct 44.1% (40%-52%), MCV 89.6 fL (80-100 fL), Lymphocytes 61% (25-33%) and Eosinophiles 5% (0.0-6.0%), previously 8%. HIV, Hepatitis B and C screen were negative. Other bloodwork revealed TSH 0.96 mIU/L (0.5-5 mIU/L), Testosterone 470 ng/dL (250-1100 ng/dL), Free testosterone 102.5 pg/mL (35.0-155.0 pg/mL), LH 4.17 mIU/mL (1.5-9.3 mIU/mL), FSH 3.47 mIU/mL (1.4-18.1 mIU/mL), and Prolactin 5.96 ng/mL (2.1-17.7 ng/mL). The etiology of the patients' erectile dysfunction was attributed to depression and psychosocial factors. No further workup was conducted and phosphor diesterase 5-inhibitors prescribed.

***Corresponding author:** Maria Susana Maritato, Woodhull Medical Center, 760 Broadway, Brooklyn, New York 11206, USA, Tel: 718-963-8000, Email: maria.maritato@woodhullhc.nychhc.org

Figure 1: Hemorrhoids in colon and rectum.

Figure 2: Hemorrhoids in colon and rectum.

Figure 3: Hemorrhoids in colon and rectum.

During these clinic visits the patient was receiving treatment for constipation and his hemorrhoids without relief. Surgery was consulted and a staple hemorrhoidectomy performed. Biopsy taken and histopathology showed anorectal junctional mucosa with dilated blood vessels, thrombosis and hemorrhage consistent with hemorrhoids and mucosal granulomas. Also noted was the presence of eosinophils and central foreign material with suggestion of a 'spine' consistent with schistosoma eggs. Acid fast stain was negative for mycobacteria (Figures 4 and 5).

Unfortunately prior to the pathology report being completed the patient was lost to follow up and could not be located, presumed to have returned to his country.

Discussion

Schistosomiasis is one of the most devastating parasitic diseases in the tropical countries.

S. haematobium, S.mansoni, and S. japonicum cause most human infections. An estimated total of 237 million people are affected worldwide with 732 million at risk of being infected [1]. In the Middle East and North Africa alone 12.7 million individuals are infected and approximately 10 million are clustered in Egypt and Yemen [1].

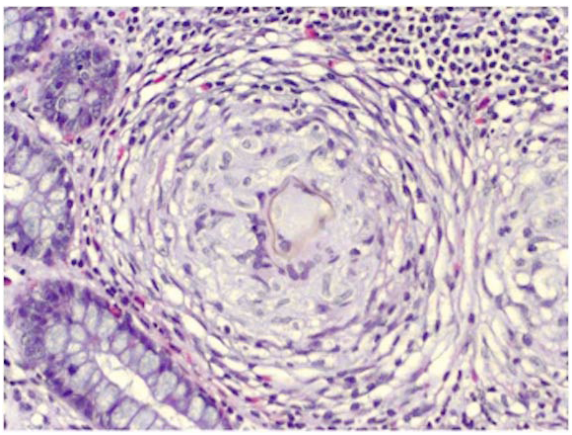

Figure 4: Hematoxylin & Eosin stain of Schistosoma egg with a short lateral spine and enveloped in the center of a prominent granuloma. Eosinophilic response around the granuloma.

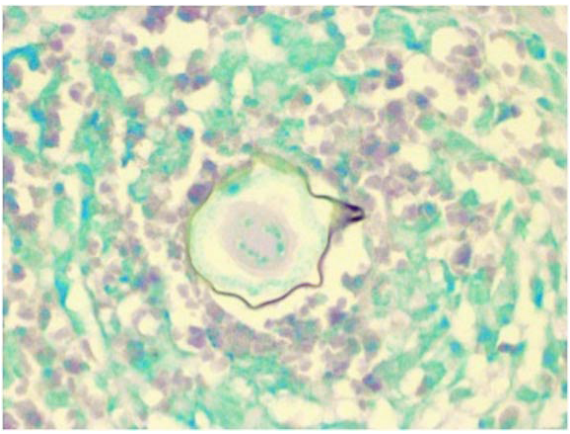

Figure 5: Acid fast stain of Schistosoma egg with a short lateral spine.

People can become infected when they come into contact with water which contains certain types of fresh water snails infested with schistosoma parasites; thousands of parasites called cercarie are produced within the snails and released into the surrounding water. The infection can occur while patients are bathing, swimming, or performing daily chores such as washing laundry, carrying water, and herding animals [2-4]. Schistosoma cercariae penetrate the skin and enter the bloodstream. The larvae will develop into the adult male and female parasites which will live, mate, and multiply in the blood vessels; the female will produce thousands of eggs but only half of the eggs produced will be excreted in the feces or urine, the rest will be trapped in the body tissues and often cause significant damage [4,5].

Acute illness usually manifest with immune mediated constitutional symptoms, and is often associated with eosinophilia in the blood and tissues and ova can be easily found in the stool. In chronic bilharzias is the passage of ova in stool is infrequent and scanty [6]. In chronic bilharzias is the passage of ova in stool is infrequent and scanty [6]. Peripheral eosinophilia may be minimal or absent but the tissue eosinophilia persists, as in our case [7,8].

Most chronic infections are asymptomatic. As the disease can progress undetected for many years with manifestation occurring later on in life, organ specific symptoms such as parasitic cirrhosis and portal hypertension can occur [9].

Worldwide approximately 20 million people have severe disease manifestations; the most commonly involved region of the gastrointestinal tract is the distal recto-sigmoid colon with most frequently reported symptoms being alternating diarrhea with constipation, abdominal pain or discomfort, bleeding per rectum, and tenesmus [7,10,11]. These symptoms can resemble several other gastrointestinal related pathologies [6,8].

Lesions result from retained eggs in the tissues. Proteolytic enzymes are secreted provoking inflammatory and granulomatous reactions. When occurring in the intestinal wall, polypoid hyperplasia of the mucosa may ulcerate and bleed with subsequent fibrosis and narrowing of the gut lumen. If ova are not entrapped in the intestinal tissue and not excreted through the intestine, they can disseminate throughout the body or be transported through the portal vein to the liver resulting in portal tract fibrosis and subsequent portal hypertension with cirrhosis.

In our case, the patients' only symptom, which helped to reach the diagnosis of chronic schistosomiasis, was bleeding hemorrhoids. The colonoscopy was grossly unremarkable, however if a biopsy of the rectal wall was taken, it would have revealed nests of eggs or schistosoma deep seated and surrounded by varying degrees of fibrosis [9] . Rectal biopsy is a simple and effective diagnostic technique providing an accurate method of visualizing eggs [6,9,11]. We also believe that impotence and infertility in this young patient were caused by chronic infection of S. mansoni. There are very few reported cases of testicular schistosomiasis documented in the literature; S. haematobium causes the majority of the cases. S. mansoni affects primarily the gastrointestinal tract and is a rare cause of erectile dysfunction and infertility. This manifestation is likely caused by the migration of eggs through venous channels between the internal spermatic and mesenteric veins causing intense granulomatous epididymitis and inhibition of spermatogenesis leading to male infertility and impotence [5]. This case highlights the importance of searching for schistosomal eggs in semen specimen as part of the routine workup for infertility and impotence in the population at risk [12,13]. Schistosomiasis represents a threat, and travelers should be made aware of the potential infection risk if they become exposed to untreated fresh water. It is recommended that all returning tourists and immigrants from high endemic areas should be screened for endemic parasitic infections [14-16].

Conclusion

Chronic schistosomiasis may involve any organ or tissue with a wide spectrum of clinical presentations. If left untreated can cause irreversible damage with devastating consequences. Bleeding hemorrhoids linked to chronic schistosomiasis are rarely reported in the literature. Clinicians need to be aware of this potential association in the population at risk. In addition, occult schistosomal coloproctitis must be ruled out in natives or travelers from high endemic areas and patients referred for colonoscopy and biopsy as well as serum antibody testing and stool for ova detection.

Genital involvement is not uncommon in bilharziasis, and can cause impotence and or infertility. Bilharziasis should always be suspected in symptomatic patients from countries with high prevalence of schistosomiasis. We think that this case highlights an invaluable lesson for the medical community treating patients in areas with high incidence of immigrants. With the increasing number of people moving around the world and carrying pathogens acquired earlier in life, it is imperative for clinicians to be aware of the prevalent infectious diseases in the countries that the patients have previously inhabited. Health care providers should maintain a high index of suspicion to evaluate these illnesses caused by pathogens. Clinical guidelines should be developed in the USA for the early identification of this neglected tropical disease.

References

1. Barakat R, Morshedy HE, Farghaly A. A Human schistosomiasis in the Middle East and North Africa region. *Neglected Tropical Diseases-Middle East and North Africa, 2014*.
2. USA ID's Neglected Tropical Disease Program.
3. Adisa J, EGbujo EM, Yahaya BA, Echejoh G. Primary infertility associated with schitosoma mansoni: from the Jos plateau, north central Nigeria: A case report. *University African Health Sciences*. 2012; 12(4):563-565.
4. World Health Organization, Update in Schistosomiasis, 2015.
5. Lopes RI, Leite KR, Prando D, Lopes RN. Testicular schistosomiasis caused by Schistosoma mansoni: A case report. *Braz J Infect Dis.* 2007;11(5):523-524.
6. Mohamed AR, al Karawi M, Yasawy MI. Schistosomal colonic disease. *Gut*. 1990;31(4):439-442.
7. de Jesus AR, Silva A, Santana LB, et al. Clinical and Immunologic evaluation of 31 patients with Acute Schistosomiasis mansoni. J Infect Dis. 2002;185(1):98-105.
8. Issa I, Osman M, Aftimos G., Schistosomiasis manifesting as a colon polyp:: A case report. *J Med Case Rep*. 2014;8:331.
9. Recio MP. The diagnosis and treatment of Colorectal Schistosomiasis. *Dis Colon Rectum*. 1958;1(2):110-115.
10. Montes M, White AC Jr, Kontoyiannis DP. Symptoms of intestinal Schistosomiaisis presenting during treatment of large B cell Lymphoma. *Am J Trop Med Hyg*. 2004;71(5):552-553.

11. Miranda L, Carvalho E, Lima D. Giant schistosomal granuloma mimicking rectum neoplasia : case report. *Rev bras Coloproct.* 2011;31(3):299-300.

12. Center for Disease Control and Prevention: Schistosoma Infection, DPDx - Laboratory Identification of Parasitic Diseases of Public Health Concern.

13. Schwartz E, Pick N, Shazberg G, Potasman I. Hematospermia due to Schistosome Infection in Travelers: Diagnostic and Treatment Challenges. *Clin Infect Dis*. 2002;35(1):1420-1424.

14. Salvana EM, King CH. Schistosomiasis in travelers and Immigrants. *Current Infect Dis Resp.* 2008;10 (1):42-49.

15. Pottie K, Greenaway C, Feightner J, et al. Evidence-based clinical guidelines for immigrants and refugees. *CMAJ.* 2011;183(12):E824-925.

16. Meltzer E, Artom G, Marva E, Assous MV, Rahav G, Schwartzt E. Schistosomiasis among Travelers: New Aspects of an Old Disease. *Emerg Infect Dis*. 2006;1212(11):1696-1700.