

Schistosomiasis In The UK

M Singh, K Adu-Poku, T Chan

Citation

M Singh, K Adu-Poku, T Chan. *Schistosomiasis In The UK*. The Internet Journal of Urology. 2006 Volume 4 Number 2.

Abstract

Schistosomiasis (Bilharziasis) can be expected to be seen with increasing frequency in the United Kingdom with the continuing influx of immigrants and refugees, as well as the return of travellers and soldiers from endemic areas. While no intermediate snail host exists for the transmission of *Schistosoma* sp. in the United Kingdom, the continued importation of exotic animals including snails from Africa, as well as the ability of schistosomes to shift host species warrants concern. Cases of pulmonary hypertension, cor pulmonale, portal hypertension, gastrointestinal bleeding and malignancy have been documented.

INTRODUCTION

Schistosomiasis (Bilharziasis) can be expected to be seen with increasing frequency in the United Kingdom with the continuing influx of immigrants and refugees, as well as the return of travellers and soldiers from endemic areas. While no intermediate snail host exists for the transmission of *Schistosoma* sp. in the United Kingdom, the continued importation of exotic animals including snails from Africa, as well as the ability of schistosomes to shift host species warrants concern. Species are area specific with *Schistosoma Haematobium* (endemic in Africa and the Middle East), *S* Manson (in Egypt, northern and southern Africa, some West Indies islands, northern 2/3 of South America), and *S* Japonica (in Japan, China, the Philippines, Celebes, Thailand, Laos). *S. mansoni* is often seen in Puerto Ricans living in the United States. [1]

CASE HISTORY

A 27 year old lady of Zimbabwean origin attended a routine antenatal appointment in November 2004. She was found to have microscopic haematuria on urine dipstick, Hb 10.6g/dL, MCV 82.6fl, eosinophils 0.5×10^9 /dL. At post natal check up March 2005 she was found to still have microscopic haematuria and referred to the urology department. At cystoscopy in December 2005 some vascular looking lesions were found and biopsied, Hb 11.1g/dL and eosinophils still raised at 1.2×10^9 /L. Histology showed mucosa infiltrated with acute and chronic inflammatory cells. The infiltrate was rich with eosinophils and numerous schistosomes. Some ova show a terminal spike characteristic of the *Schistosoma Haematobium* species. The patient was treated with a single dose of Praziquantel. Follow up

cystoscopy showed resolution of the vascular areas.

Figure 1

Figure 1: Flexible Cystoscopy

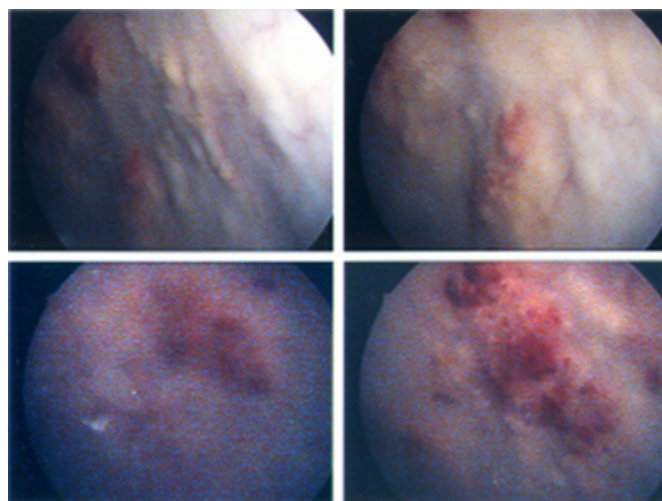
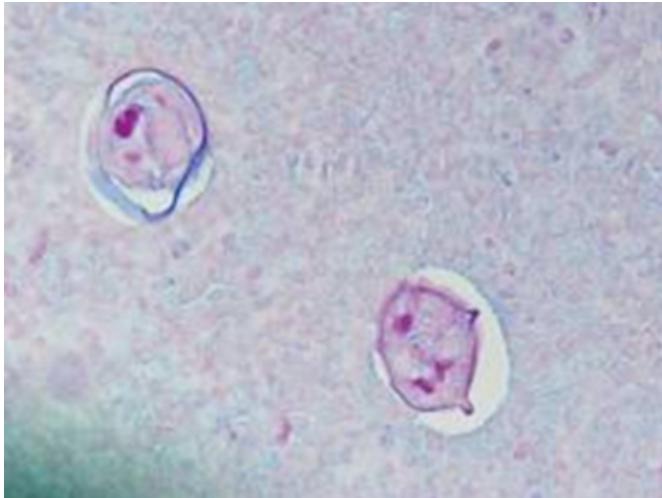


Figure 2

Figure 2: PAS staining showing *S. Haematobium* egg with terminal spike



DISCUSSION

Although very easy to treat, schistosomiasis has quite severe implications especially if it allowed to progress to a chronic stage. Cases of pulmonary hypertension, cor pulmonale, portal hypertension and gastrointestinal bleeding have been documented. In the case above the worst complication could be progression from a chronic stage to a bladder tumour.

The spectrum of bladder tumours is broad. Squamous cell carcinoma (SCC) makes up 1.2- 4.5% of all vesical tumours (Bristol Bladder Tumour Registry BJU 1969). In Western countries the incidence is higher in patients with prolonged urinary catheters (10-20%). It is suggested that there is a lag period of approximately 30 years between infestation and development of bladder cancer. Unfortunately many present at a late stage. [2]

1. The international agency for research on cancer (IARC) considers *S. haematobium* infection a definitive cause of urinary bladder cancer with an associated 5-fold risk. Several mechanisms have been suggested to explain the role of *S. haematobium* in bladder cancer:
2. Fibrosis induced by schistosome eggs may induce proliferation, hyperplasia and metaplasia, all of which are possible precancerous changes
3. Chronic urinary bacterial infection and production of nitrosamines from their precursors in urine, that are well known bladder carcinogens.
4. Raised urinary beta-glucuronidase levels originating from miracidia and adult schistosomes liberating carcinogenic amines in urine. [3,4]

As with other bladder tumours that present with haematuria, SCC tends to present with irritative bladder symptoms. Unfortunately radical cystectomy remains the cornerstone for treating SCC of the bilharzial bladder with median survival of 5.4 years. Due to this, efforts must be made towards early detection.

References

1. World Health Organisation. Schistosomiasis .Division of Control of Tropical Diseases 1983
2. Shokeir AA.Squamous cell carcinoma of the bladder: pathology, diagnosis and treatment. BJU Int. 2004 Jan;93(2):216-20
3. Rosin MP, Saad El Din Zaki S, Ward AJ, Anwar WA. Involvement of inflammatory reactions and elevated cell proliferation in the development of bladder cancer in schistosomiasis patients. Mutat Res 1994;305 :283-92.
4. Khurana S, Dubey ML, Malla N. Association of parasitic infections and cancers. Indian J Med Microbiol. 2005 Apr;23(2):74-9.

Author Information

Mark Singh, SHO Urology

Basildon Hospital

Kwame Adu-Poku

Associate Specialist in Histopathology, Basildon Hospital

Tom Chan

Consultant Radiologist, Basildon Hospital