

Bilateral renal colic revealing bilateral ureteral and bladder bilharziasis: Case report

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World Journal of Advanced Research and Reviews, 2023, 20(01), 435–438

Publication history: Received on 10 August 2023; revised on 04 October 2023; accepted on 07 October 2023

Article DOI: <https://doi.org/10.30574/wjarr.2023.20.1.1921>

Abstract

Schistosomiasis, also known as bilharziasis, is a parasitic endemic disease prevalent in tropical regions and a significant public health problem, affecting hundreds of millions of people worldwide. The causative agent of urogenital schistosomiasis is *Schistosoma haematobium*. In France, cases of bilharziasis are rare and mainly diagnosed in tourists, expatriates, and migrants coming from endemic areas.

Diagnosis relies on parasitological examinations, detecting eggs in urine and bladder biopsies. The primary treatment is based on praziquantel, with surgery reserved for complicated cases.

Keywords: Bilharziasis; Ureteral; Bladder; Bilateral Renal Colic

1. Introduction

Bilharzia is a tropical parasitosis caused by worms trematodes, schistosomes.

This is the second infection global parasite burden after malaria: 230 million people in 52 countries require an annual treatment. 80 to 90% of them live in Africa.

The agent of urogenital bilharzia is *Schistosoma haematobium*.

We report the case of a patient from an endemic area, which reminds us of the potential complications of this tropical pathology.

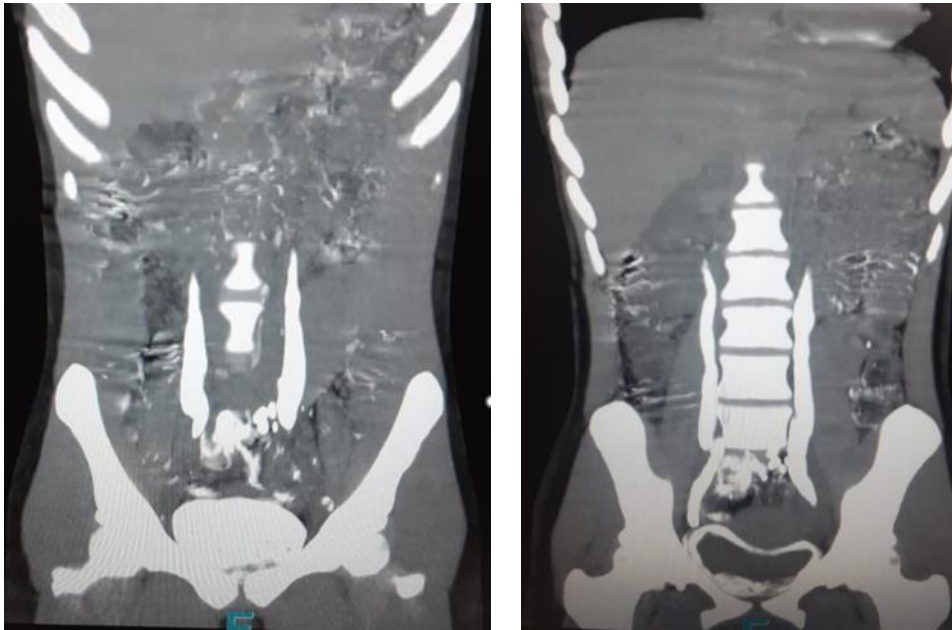
2. Case report

A case of a 22-year-old Mauritanian woman who admitted in the peripheral hospital center of Kiffa for intermittent bilateral low back pain evolving over 6 months in a context of afebrile condition. The initial clinical examination reveals bilateral sensibility on palpation in the lumbar region. There is no inflammatory syndrome, normal kidney function, and the cytobacteriological examination of the urine detects bilharziasis eggs. Given the lack of improvement in symptoms despite analgesic treatment, a uroscan was performed, showing complete calcification of the bladder and both ureters without renal dilation. (figures)

A treatment with praziquantel (40 mg/kg) combined with corticosteroids was initiated. An attempt to place a JJ stent was made but was unsuccessful. Cystoscopy revealed a completely calcified bladder associated with characteristic lesions composed of whitish granulations obstructing the identification of the ureteral orifices. Biopsies confirmed the diagnosis of bilharziasis with the presence of bilharzia eggs.

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The patient was kept under observation for 48 hours with good progress, notably the disappearance of the lumbar pain. A clinical follow-up after 6 weeks showed a pain-free patient with preserved diuresis.



Figures 1 C- scan images showing bilateral and bladder ureteral calcification

3. Discussion

Patients become infected during bathing in water infested with furcocercariae (5 minutes of contact are sufficient), which represent the infective form of the parasite. [1]

Inside the human body, the larvae develop and, as adults, they exhibit an elective tropism for the perivesical and perirectal venous plexuses. The female lays her eggs in terminal spurs, in packets, within the rectal and vesical walls: some eggs are eliminated outside mainly through urine, which contributes to the continuation of the cycle by contaminating sources of freshwater. The eggs then infect their intermediate host, a snail called *Bulinus*, which will later release the furcocercariae. However, many eggs remain in the visceral walls or are embolized at a distance, leading to chronic lesions of urogenital schistosomiasis. The lifespan of *S. haematobium* is over 10 years.

A cercarial dermatitis, a pruritic maculopapular rash, may occur in the hours following the penetration of the larvae into the skin, disappearing within 48 hours after exposure to infested water. [2] These lesions are most often reported by patients but are rarely observed by physicians. In non-immune patients, the invasive phase or 'acute schistosomiasis' manifests in the weeks following infection with an inflammatory reaction involving non-specific signs such as fever, fatigue, myalgia, headaches, and possibly digestive disorders. [3-4]

In a study of 622 symptomatic patients returning from a trip to tropical countries, schistosomiasis was diagnosed in 46 (7.2%) travelers, and invasive schistosomiasis accounted for 1.6% of fever cases in the subgroup of 257 febrile travelers. [5] Among this population of travelers, urinary and digestive schistosomiasis were significantly more common in migrants, while invasive and ectopic cutaneous forms were observed only among tourists. [5].

In the chronic phase, urogenital schistosomiasis is generally characterized by hematuria, which can be either microscopic or macroscopic, minimal or abundant, and terminal or total. It may be accompanied by lower urinary tract symptoms such as dysuria and pollakiuria. Sometimes, the condition may be signalled by episodes of renal colic, as was the case with our patient.

The progression of urogenital schistosomiasis can lead to involvement of the entire urinary tract, ranging from urinary tract infections to bladder cancer. In men, it can cause conditions such as orchid epididymitis, prostatitis, impotence, or hematospermia. In women, it may present as salpingitis, endometritis, cervical-vaginal ulcers, and may even lead to infertility or ectopic pregnancy [6].

The definitive diagnosis relies on the detection of eggs in the urine or bladder biopsies.

During cystoscopy, the images are very indicative and vary according to the stage of the disease's progression. In the early stage, primary lesions appear as "grains of sand," while in the cicatricial stage, diffuse calcifications are observed, along with a non-expandable and dull-looking bladder. In the case of our patient, cystoscopy revealed a completely calcified bladder with the absence of visualization of the two ureteral orifices.

Abdominal X-ray without contrast highlights the typical appearance of a "porcelain bladder" in cases of total bladder calcification, as was the situation with our patient.

Ultrasound is highly useful, especially in endemic areas, due to its accessibility and cost-effectiveness [7]. It can reveal dilated calices, calcifications, or thickening of the bladder wall [8].

The CT scan confirms and provides more precise localization of the calcifications, making it the gold standard examination in Western countries. However, it is less commonly used in endemic areas due to its cost [4-9]. In the case of our patient, a CT scan was performed, revealing complete calcification of the bladder and both ureters. (Photos)

Praziquantel is the recommended treatment, effective against all forms of chronic schistosomiasis. Some practitioners prescribe it in combination with corticosteroids for certain forms and suggest increasing the dose of praziquantel due to a 50% reduction in its plasma levels [10]. This was the approach taken with our patient, resulting in a favorable clinical outcome.

4. Conclusion

Urogenital schistosomiasis should be considered when presented with suggestive symptoms (such as hematuria, lower back pain, or other genitourinary functional signs), especially in endemic countries. It is also important to be vigilant about this condition in tourists coming from these areas, as they can be affected after just one exposure. Early treatment can help reduce complications and the need for surgical intervention.

Compliance with ethical standards

Acknowledgments

Acknowledgments for the staff of the department of Urology, Hassan II University Hospital, Fez, Morocco.

Disclosure of conflict of interest

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Statement of ethical approval

'The present research work does not contain any studies performed on animals/humans' subjects by any of the authors

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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