A case of pyelo-ureteral junction bilharzioma

Oumar Gaye a, *, Mohamed Jalloh a, Ngor Mack Thiam a, Khadidiatou Dansokho b, Lamine Niang a, Serigne Maguèye Gueye a

a Urology Department, Idrissa Pouye General Hospital, Senegal
b Pathological Anatomy Laboratory, Idrissa Pouye General Hospital, Senegal

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ABSTRACT

Bilharziomas are inflammatory tumour-like masses which often pose the problem of differential diagnosis with neoplastic processes. Its location at the pyelo-ureteral junction is very uncommon.

The pre-operative diagnosis of bilharzia of the pyelo-ureteral junction is difficult. Indeed, the diagnosis is most often made on anatomo-pathological examination of the surgical specimen, which rarely allows for conservative treatment.

We report one case of pyeloureteral junction bilharzioma in children living in bilharzia endemic areas and discuss the diagnostic and therapeutic issues of these cases.

1. Introduction

Schistosoma Haematobium bilharzia is responsible for urogenital bilharzia. It affects about 100 million people in sub-Saharan Africa and children are the most impacted age group.

As soon as they penetrate the skin, the schistosomules reach the intrahepatic portal veins through the circulatory system. They continue their development and sexual maturation in the venous plexuses of the bladder and other pelvic organs. The involvement of the urogenital organs varies according to the richness of their vascularisation. Thus, the bladder, seminal vesicles and lower ureter are more affected by the disease due to their rich vascularisation. Renal and pyelo-ureteral junction localisation are exceptional. The mechanism of the renal location would involve portocaval anastomoses between the splenic vein and the left renal vein, as well as anastomoses between the exrenal venous circle of each kidney and the mesocolic veins.

The pre-operative diagnosis of bilharzioma of the pyelo-ureteral junction is difficult to establish. Indeed, the diagnosis is often based on histology of the surgical specimen, which rarely allows conservative treatment.

We report one case of pyeloureteral junction bilharzioma and discuss his diagnostic and therapeutic issues.

1.1. Case presentation

We report a seven-year-old child with a history of several episodes of end-stage haematuria who had consulted us for left colic-like lumbar pain evolving for about six months. The child originally came from Fouta (Senegal River region).

The examination revealed a good general condition, no large kidney, painless ureteral points and a soft hypogastrium.

1.2. Renal function was normal

Uro-tomodensitometry showed a left pyelo-ureteral junction syndrome with no calcification along the ureter and no intravesical polyps (Fig. 1).

The patient was then scheduled for a left pyeloplasty.

On investigation we found a tumour at the pyelo-ureteral junction with yellowish granulations in the renal pelvis (Fig. 2). We performed a resection of the pyeloureteral junction with plasty of the pelvis around a JJ catheter. The postoperative outcome was unremarkable and the JJ catheter was removed a month later.

We report one case of pyeloureteral junction bilharzioma in children living in bilharzia endemic areas and discuss the diagnostic and therapeutic issues of these cases.
2. Discussion

Bilharzias are inflammatory pseudotumours that often pose the problem of differential diagnosis with neoplastic processes. The bladder, seminal vesicles and lower ureter are most affected by the disease because of their rich vascularity. Localisation at the pyelo-ureteral junction is rare.

The mechanism of the renal localisation would involve the porto-caval anastomoses between the splenic vein and the left renal vein, as well as the anastomoses between the exorenal venous circle of each kidney and the mesocolic veins. The first hypothesis could be the most plausible, as the rare cases reported as well as our observation were located on the left side.

On epidemiological aspect, a stay in a bilharzia-endemic area, swimming in still water and young age may suggest a diagnosis of bilharzia. The clinical signs are not specific to pyelo-ureteral junction syndrome secondary to bilharzia.

A good interpretation of Uro-tomodensitometry may reveal thickening of the ureteral junction wall, associated lesions such as calcifications of the associated lower ureters and intravesical polyps. Nevertheless, imaging does not differentiate a bilharzioma from a urothelial carcinoma but just to objective a parietal thickening hence the need to perform a ureteroscopy with biopsy when the diagnosis is evoked. For our case we did not performed a ureteroscopy because the diagnosis was not mentioned on the CT scan.

When bilharzioma is suspected, medical treatment can be conducted if the infection is active and surgery can be reserved for failure of the medical approach.

As in our observation, pyeloplasty could be performed that help give results. If the diagnosis is not suspected it can lead to a nephrectomy. We decided to open the pelvis intraoperatively despite the risk of tumor dissemination if the tumor was malignant. We carried out a wide resection from the area where the granulations were based in the pelvis to the macroscopically healthy zone. Nevertheless, an extenporanized examination would have allowed us to eliminate with certainty an incomplete resection.

In our regions of bilharzian endemic, the risk of fistula or restenosis is low if the plasty is well performed with drainage. Renal function is also

![Fig. 1. Uro-Tdm objecting to a syndrome of the left pyelluteral junction.](image1)

![Fig. 2. Left retro-peritoneal region](image2)  
1- Left renal pelvis (opened)  
2- Left pyelo-ureteral junction tumor.

![Fig. 3. Specimen histology](image3)  
1- Pyelo-ureteral junction bilharzia  
2- Pyelo-ureteral junction bilharzia.
The evolution of this pseudotumour could lead to carcinogenesis regarding the bladder. Indeed, a case of squamous cell carcinoma of the pyelo-ureteral junction associated with the presence of bilharzia eggs has been reported. However, if bilharzia lesions are well treated, the risk of secondary cancerization is low. On the other hand, long-term monitoring is necessary when the lesions have progressed into metaplasia.

3. Conclusion

Although uncommon, pyeloureteral junction bilharziomas is a cause of hydrouonephrosis in children living in endemic areas. They simulate a tumor but a good exploration of the scanner or during the operation should suggest the diagnosis. This should be considered for conservative treatment with good results.

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