

Case Report

J Ped. Nephrology 2016;4(3):113-115
<http://journals.sbm.ac.ir/jpn>

Unilateral Renal Tuberculosis Presenting as Persistent Pyuria

How to Cite This Article: Irshad M, Ashraf M, Akhter Y, Ahmad Bhat J. Unilateral Renal Tuberculosis Presenting as Persistent Pyuria. J Ped. Nephrology 2016;4(3):113-115.

Mohd Irshad,¹
Mohd Ashraf,^{2*}
Yasmeena Akhter,³
Javaid Ahmad Bhat¹

1 Registrar, Department of Pediatrics, GB Pant Hospital, Govt. Medical College Srinagar, J&K-India.
2 Lecturer Pediatric Nephrology, GB Pant Hospital, Government Medical College Srinagar, J&K-India.
3 Resident, Department of Medicine, SKIMS Medical College Srinagar, J&K-India

*Corresponding Author

Mohd Ashraf, Lecturer Pediatric Nephrology, GB Pant Hospital, Government Medical College Srinagar, J&K-India. 8-Green Lane Raj Bagh, Srinagar, J&K, India-190008.
Phone: 91-8715000351.
E-mail: aashraf_05@yahoo.co.in

Received: June-2016
Revised: July-2016
Accepted: Sep-2016

Introduction

India tops the list of tuberculosis patients globally. World Health Organization (WHO) statistics for 2014 shows that worldwide annual incidence of TB is 9 million cases, with 2.2 million TB cases belonging to India [1]. National survey during 2006-2012 conducted in our country gave a pooled prevalence of 3.2 million TB cases. Based on the sputum microscopy, regional data from the World Health Organization (WHO) indicate that sputum microscopy smear-positive TB in children (<14 years old) accounts for 0.6%–3.6% of all reported cases [2]. However, in children sputum microscopy smear is usually negative, these data underestimate the true burden of childhood TB.

Despite being one of the major health problem globally, tuberculosis still remains an important, but under diagnosed and ignored cause of kidney damage especially in resource poor settings. Timely diagnoses and treatment can cure this otherwise devastating resource draining ailment. We report a 10-year-old girl who had persistent pyuria and dysuria despite receiving multiple drugs empirically before antitubercular therapy was initiated.

Keywords: Child; Renal Tuberculosis; Urinary Tract infections.

Running Title: Renal Tuberculosis Presenting as Persistent Pyuria

It is estimated that childhood TB constitutes 10–20% of all TB in high-burden countries [3], accounting for 8–20% of TB-related deaths [4], whereas childhood TB in India is estimated to be 10.2% of the total adult incidence but only 6% of the total cases reported to the Revised National Tuberculosis Control Program (RNTCP), implying a low level of case finding [5]. TB in younger children is most challenging especially in countries with limited public health resources and high endemicity like ours. In adults, urogenital tuberculosis is responsible for 30% to 40% of all extrapulmonary cases, and is second only to lymph-node involvement [6]. While in children it

is < 5% of cases settles at an uncommon illness in children and juveniles. Renal tuberculosis has a large spectrum of presentation, varying from asymptomatic involvement to entire kidney destruction and renal failure. Early diagnosis of renal tuberculosis can prevent the sequelae of genitourinary TB (GUTB), including renal impairment. In this report, we studied this school girl, and evaluated the presence of genitourinary TB who presented us features suggestive of urinary tract infection (UTI).

Case Report

Ten-year-old girl belonging to Gujjar community from a remote village of Kashmir, presented to our OPD with complaints of increased frequency of micturition, diurnal in nature with infrequent incontinence of urine and pain in left loin from last 4 months. She was treated as case of urinary tract infection based on presence of pus cells and RBC's in urine. But symptoms did not subside and pyuria and hematuria continued despite receiving multiple courses of antibiotics over a period of 2 months. There was no history of cough, night sweats, malaise bleeding from any orifice, swelling of abdomen or any other body part. There was no contact history of tuberculosis. Clinical examination revealed pale, undernourished girl, weighing 22kg (between -2 to -3SD), and a height of 130 cm (-1 to -2SD), and upper to lower segment ratio of 0.81. There were no signs of vitamin deficiency. BCG scar was absent. There is significant past history neglected trauma right hip followed by limb shortening by 5 cm. Laboratory evaluation revealed, Hb:9.8 g/dl; TLC 14000, with polymorph of 65%, lymphocyte 30%; platelets: 2.0 lack; ESR 48mm 1st Hour. Blood gases, renal and liver functions were normal. Chest X-ray, tuberculin test, sputum for AFB was negative. However, examination of urine revealed full field pus cells, erythrocytes 10-12/HPF, and microscopy revealed acid fast bacilli which later on were confirmed on urine culture. A false positive result on culture due to presence of *M. smegmatis* (a non-pathogenic *Mycobacterium*) in the urine was ruled out [7]. Ultrasonography abdomen revealed left kidney measuring 12.5x 6.0 cm with heterogeneous echotexture, with multiple echogenic areas showing central necrosis. Calyceal system shows uneven dilatations, with normal appearing pelvis. Urinary bladder was thickened (6.8mm) with low level of internal echos. Right Kidney appeared normal in all parameters. Intravenous pyelography shows prompt uptake by

normal sided right kidney and irregular small sized urinary bladder (Fig. 1, 2). Patient was put on 4 drug intensive phase which she has completed and is now continuing with 2 drug continuation phase. Almost all the symptoms have subsided and she is doing well.



Figure 1. Intravenous pyelography shows prompt uptake of non-ionizing dye



Figure 2. Showing irregularly outlined urinary bladder

Discussion

Renal and bladder tuberculosis usually secondary to tuberculosis infection from a distant source, mostly from lungs. It generally presents 5 to 20 years after the primary infection and settles as an uncommon illness in childhood [8]. In our case neither we could localize the primary site of infection nor there was any history of active tuberculosis contact. This is contrary to the existing knowledge that a clinical & radiological evidence of past infection, suggesting the renal involvement is due to reactivation of bacilli within dormant lesions. [9,10]. However belonging to tribal community kept our index of suspicion high enough to evaluate her on lines of renal tuberculosis as prevalence of tuberculosis is significantly high in tribal community in India. [11]. Clinical presentation in our case was resistant urinary tract infection, sterile pyuria, hematuria, increased frequency, urgency, dysuria, and loin pain which quite similar to the earlier studies [12,13]. Our patient did have renal colic an uncommon presentation of renal tuberculosis without any ureteral stricture and calcification which is quite contrary to the existing body of evidence [8]. Our patient was having right lower limb shortening probably because of neglected trauma hip which initially we thought was because of tuberculosis hip, but was ruled out based on historical and imaging findings. Pediatric renal TB although is rare in children is now becoming common due to emergence of HIV, and increasing use of iatrogenic immune suppression. However, under diagnosis of renal TB could have devastating future in form of chronic renal insufficiency, obstructive uropathy, end stage renal disease, all of them are amenable to treatment if diagnosed in time. Pediatricians should keep high index of suspicion for renal TB

especially in tribal community, HIV infected and immune suppressed patients.

References

1. Global Tuberculosis Control 2015, WHO, Geneva, 2015. http://www.who.int/tb/publications/global_report.
2. Global tuberculosis control—epidemiology, strategy, financing. WHO Report 2009. http://www.who.int/tb/publications/global_repo
3. Marais BJ, Gie RP, Schaaf HS, Hesselning AC, Enarson DA, Beyers N. The spectrum of childhood tuberculosis in a highly endemic area. *Int J Tuberc Lung Dis* 2006;10:732-738.
4. C. M. Perez-Velez and B. J. Marais, "Tuberculosis in children," *The New England Journal of Medicine* 2012; vol. 367, no. 4, pp. 348-361.
5. Nelson LJ, Wells CD. Global epidemiology of childhood tuberculosis. *Int J Tuberc Lung Dis* 2004; 8: 636-47.
6. Gow JG. Genitourinary tuberculosis. In: Walsh PC, Retik AB, Vaughan ED, Wein AJ, eds. *Campbell's Urology*. 7th ed. Philadelphia: W.B. Saunders Company; 1998:807.
7. Lenk S, Schroeder J. Genitourinary tuberculosis. *Curr Opin Urol* 2001; 11: 93-98.
8. Hemal AK. Genitourinary tuberculosis. In: Sharma, Mohan editors. *Tuberculosis*. Jaypee publications 2009; 32: 463-478.
9. Christensen WI. Genitourinary tuberculosis: review of 102 cases. *Medicine (Baltimore)* 1974; 53: 377-390.
10. Narayana A (1982) Overview of renal tuberculosis. *Urology* 1982; 19: 231-237.
11. Thomas BE, Adinarayanan S, Manogaran C, Swaminathan S. Pulmonary tuberculosis among tribals in India: A systematic review & meta-analysis. *Indian J Med Res* 2015;141:614-23.
12. Wise GJ, Marella VK. Genitourinary manifestations of tuberculosis. *Urol Clin North Am*. 2003;30:111-21.
13. Gupta H, Kone K, Pandey S, Dorairajan LN, Kumar S. Tubercular mass mimicking a tumour in a horseshoe kidney: A unique presentation. *Int Urol Nephrol*. 2004;36:323-4.