

Spectrum of urogenital tuberculosis

Ekaterina Kulchavenya · Irina Zhukova ·
Denis Kholto bin

Received: 20 August 2012 / Accepted: 7 March 2013

© Japanese Society of Chemotherapy and The Japanese Association for Infectious Diseases 2013

Abstract Urogenital tuberculosis (UGTB) plays an important role because its complications may be fatal, it significantly reduces quality of life, and it is often associated with AIDS. Diagnosis of UGTB is often delayed. We analyzed 131 case histories of UGTB patients from the years 2009–2011. Gender, age, and the clinical form and main features of the disease were taken into account. The most common form was kidney tuberculosis (74.8 %). Isolated kidney tuberculosis (KTB) more often occurs in women: 56.8 %. Patients of middle and old age more often showed the stage of cavernous KTB; younger patients had smaller forms. Among all cases, an asymptomatic course was seen in 12.2 % and, among cases of KTB, in 15.9 %. Every third patient complained of flank pain and dysuria (35.2 % and 39.8 %, respectively); 17 % presented with toxicity symptoms, 9.1 % with renal colic, and 7.9 % with gross hematuria. *Mycobacterium tuberculosis* (MTB) in urine was found in 31.8 % of cases in all levels of isolated KTB. UGTB has no specific symptom; even sterile pyuria occurs only in 25 %. The acute onset of tuberculous orchiepididymitis was seen in 35.7 % of patients, hemospemia in 7.1 %, and dysuria in 35.7 %. The most common complaints for prostate tuberculosis were perineal pain (31.6 %), dysuria (also 31.6 %), and hemospermia (26.3 %). MTB in prostate secretion/ejaculate was revealed in 10.5 % of this group. All urogenital tract infections should be suspected as UGTB in patients who are living in a region with a high incidence rate, who have had contact

with tuberculosis infection, and who have a recurrence of the disease that is resistant to standard therapy.

Keywords Urogenital · Tuberculosis · Diagnostic · Epidemiology

Introduction

Extrapulmonary tuberculosis (EPTB), in spite of the few numbers of newly revealed patients, plays a significant role in phthisiology. Complications of EPTB may be fatal. EPTB as a rule significantly reduces the quality of life, and EPTB is more often associated with acquired immunodeficiency syndrome (AIDS) than pulmonary TB [1–3].

Urogenital tuberculosis (UGTB) is the most common form among EPTB in countries with a high incidence rate. UGTB seems to be a rare disease, but 70 % of men who died from all localizations of tuberculosis (TB) had prostate TB, mostly overlooked during their lifetime. Also, TB is a sexually transmitted disease and one of the reasons for both male and female infertility [4–6]. Timely diagnosis of UGTB is a very difficult task, as there is no specific symptom for this disease [7–11]. Aseptic (sterile) pyuria was common for UGTB in the past century, but comorbidity with nonspecific urogenital infections is now diagnosed in 75 % of patients [12]. UGTB is a great hoaxer: it hinders discovery by hiding under the mask of another disease [9, 11, 13–15].

The purpose of our study was to analyze the age, gender, and clinical spectrum of UGTB to improve its diagnostics.

Materials and methods

We retrospectively analyzed 131 case histories of UGTB patients who were found in Novosibirsk (the large

E. Kulchavenya (✉) · I. Zhukova · D. Kholto bin
Department of Urogenital, Novosibirsk TB Research Institute,
81-a Okhotskaya Str., Novosibirsk 630040, Russian Federation
e-mail: ku_ekaterina@mail.ru

E. Kulchavenya
Novosibirsk Medical University, Novosibirsk, Russia

industrial center of Siberia) and Novosibirsk region (in total, about 3 million inhabitants) in 2009–2011. Clinical form, gender, age, and main features of the disease were taken into account. All patients underwent a standard clinical workup, which included urinalysis, plain chest X-ray, intravenous urography, ultrasound investigation of the urinary tract, and transrectal ultrasound investigation of the prostate. At least three consecutive early morning specimens of urine were cultured for *Mycobacterium tuberculosis* (MTB) as well as for nonspecific microflora. In male patients, ejaculate and expressed prostate secretion obtained through massage were investigated with polymerase chain reaction (PCR) and culture for both MTB and nonspecific microbes.

For estimation of the clinical spectrum, we used the following classification of kidney tuberculosis (KTB) [12]:

Level 1: nondestructive form, TB of parenchyma

Level 2: small destructive form, TB papillitis

Level 3: destructive form with one or two caverns (cavernous KTB)

Level 4: widespread destructive form with more than two caverns (policavernous KTB)

Complications of kidney TB (KTB) include renal failure, fistula, and TB of the urinary tract (TB of ureter, bladder, and urethra) [12, 16].

Male genital TB (MGTB) was classified as prostate TB and TB orchiepididymitis. In the case of bilateral KTB we considered a higher level (for example, a patient with TB papillitis of left kidney and right cavernous KTB was considered as a patient with KTB of the third level).

Statistical analysis was made by estimation of z -criteria of significance of proportions. Differences were considered significant at $P < 0.05$.

Results

All analyzed signs are presented in Table 1. Among 131 patients, isolated KTB was diagnosed in 88 (67.2 %) and MGTB in 33 (25.2 %); 10 (7.6 %) men had generalized UGTB, and all these 10 patients had policavernous KTB (level 4). Thus, the most common form in the spectrum of UGTB was KTB, which was diagnosed in 75 % of patients (including 8 % of generalized UGTB).

On the whole, male patients predominated at 81 (61.8 %); 50 patients (38.2 %) were female. However, isolated KTB more often was diagnosed in women: 50 (56.8 %) among 88 patients, whereas 38 were men (43.2 %) ($p = 0.04$). In groups with KTB, the male:female ratio fluctuated from 1.5:1.0 in KTB at level 1 to the opposite, 1.0:1.45, in level 3 KTB.

In the spectrum of KTB, more than half of the cases were destructive forms (level 3 or 4). Isolated KTB at level

3 was diagnosed in 22 (22.4 %) cases and isolated KTB at level 4 in 21 (21.4 %) cases. However, because 10 men (10.2 %) with generalized UGTB also had level 4 KTB, destructive forms occurred in 54.0 % of cases. Different complications of KTB were diagnosed with different frequency in different groups. No patient with MGTB and KTB at level 1 had TB of ureter or bladder, whereas KTB at levels 2–4 complications were seen in 14.3–40.0 % and 31.8–57.1 %, respectively ($p < 0.05$). In UGTB as a whole, TB of the ureter was diagnosed in 14.5 % and bladder TB in 30.5 % of patients.

Children and teenagers were identified as level 1 KTB. All children were seen to have had contact with TB infection, and they had no urological complaints. A 17-year-old girl had recurrent urogenital tract infection with flank pain for 5 years, so UGTB was suspected and her urine was cultured. UGTB as a whole was more often seen in ages 40–59 years (46.6 %) than in patients 60 years old and older (28.2 %) and 21–39 years of (22.1 %). However, significant fluctuations were found between different groups ($p < 0.01$). The oldest patients had level 3–4 KTB and MGTB; KTB at levels 1–2 was diagnosed mostly in young patients.

Among all UGTB groups, the most common symptoms were pain (42.0 %) and dysuria (38.9 %), again with fluctuation between groups from 0 % to 68.2 % ($p < 0.01$). Hematuria was present in 0–20.0 % (in UGTB as a whole, 6.9 %) and renal colic in 0–40.0 % (in UGTB as a whole, 9.2 %) ($p < 0.05$). The frequency of the asymptomatic course was minimal in the group of generalized UGTB and TB orchiepididymitis (0), and maximal in the group with KTB at level 1 (50.0 %); in all cohorts average frequency was 12.2 % ($p < 0.001$).

M. tuberculosis was found in all patients with level 1 KTB and was not found in any patients with TB orchiepididymitis; in UGTB as a whole, it was found in 25.2 % of patients. Growth of nonspecific microflora was not found in MGTB patients; in groups of KTB this sign fluctuated from 10.0 % up to 100 %, and in UGTB as a whole occurred in 55.7 % of patients.

As no patient was infected by resistant *M. tuberculosis*, all were treated with standard chemotherapy. In epidemic regions, patients with UGTB should be treated with four or five antituberculous drugs: isoniazid 10 mg/kg + rifampicin 10 mg/kg + pyrazinamid 20 mg/kg + streptomycin 15 mg/kg + PAS 150 mg/kg (or ofloxacin 800 mg or levofloxacin 500 mg daily) simultaneously for 2–4 months, followed by 6–8 months of chemotherapy with isoniazid and rifampicin only [6, 16, 17]. Patients with KTB at levels 1–2 and with prostate TB were cured by chemotherapy; patients with level 3 KTB underwent partial chemotherapy in 50 % (11 patients); and in all 31 patients with level 4 KTB, nephrectomy was indicated. All 14 patients with TB orchiepididymitis also

Download English Version:

<https://daneshyari.com/en/article/6123803>

Download Persian Version:

<https://daneshyari.com/article/6123803>

[Daneshyari.com](https://daneshyari.com)