

## PATTERN OF GENITOURINARY TUBERCULOSIS IN PATIENTS WITH PULMONARY TUBERCULOSIS

M. ADIL KHURSHID, G. M. SIDDIQI, M. RIAZ HUSSAIN, M. NAWAZ CHUGHTAI, ANJUM AZHAR

*Departments of Urology, Microbiology, Histopathology and Pathology  
Nawaz Sharif Social Security Teaching Hospital, Continental Medical College  
King Edward Medical University and Allama Iqbal Medical College, Lahore*

### ABSTRACT

**Introduction:** Tuberculosis is an ancient disease. It is responsible for causing a major health problem in developing countries. Genitourinary tuberculosis is the second most common form of extra pulmonary tuberculosis after lymph node involvement. This study was carried out to determine the pattern of genitourinary tuberculosis in patients with active pulmonary tuberculosis. It is a cross sectional descriptive study. Carried out in the Urology Department of Jinnah Hospital and T.B outdoor of Gulab Devi Hospital, Lahore during the period Oct, 2002 to Oct, 2004. **Materials and Methods:** Two hundred patients with pulmonary tuberculosis, 117 males and 83 females, ranging from 17 to 80 years of age (mean 37.9 years) were included in the study. Hundred patients were freshly diagnosed cases (group-1) and the remaining hundred patients were already diagnosed cases of pulmonary tuberculosis and had received antituberculous treatment (ATT) for at least three months (group-2). Diagnosis of pulmonary tuberculosis was based on positive sputum smear for acid fast bacilli (AFB) by Ziehl Neelsen (ZN) staining technique. Twenty four hours urine was collected from each patient. Each specimen was examined for the presence of mycobacterium tuberculosis by ZN staining and culture on Lowenstein Jensen (LJ) medium. Positive for one or both of these procedures was taken as positive for genitourinary tuberculosis. Biopsy of urogenital tract was carried out and histopathological examination was done in patients with positive bacil-luria and having urinary symptoms. **Results:** Genitourinary organs of 9 patients in group-1 and 18 patients in group-2 were found involved for genitourinary tuberculosis. Among 9 patients in group-1, the urinary bladder and kidney involvement were highest 3 (33.3%) followed by epididymis 2 (22.2%) and Ureter 1 (11.1%). Among the 18 patients in group-2, urinary bladder involvement was highest 9 (50%) followed by kidney 5 (27.8%), epididymis 3 (16.7%) and testis 1 (5.5%). Genitourinary organ involvement in patients already on antituberculous treatment is more common as compared to freshly diagnosed cases. Urinary bladder involvement is highest in both groups.

**Keywords:** (Pattern; genitourinary tuberculosis; pulmonary tuberculosis).

### INTRODUCTION

Tuberculosis is an ancient disease. It is responsible for causing a major health problem in developing countries. Genitourinary tuberculosis is the second most common form of extra pulmonary tuberculosis after lymph node involvement.<sup>1</sup> Kidney is usually the primary organ infected and the other parts of urinary tract become involved by direct extension. Epididymis in males and fallopian tubes in females are the primary sites of genital infection.<sup>2</sup> In Pakistan, more than 0.3 million new cases of tuberculosis are added each year.<sup>3</sup> Present study was planned to

determine the pattern of genitourinary tuberculosis in patients with active pulmonary tuberculosis.

### MATERIALS AND METHODS

Two hundred patients with pulmonary tuberculosis, 117 males and 83 females ranging from 17 to 80 years of age (mean 37.9) years from October 2002 to October 2004, selected from Urology Outdoor of Jinnah Hospital and Chest outdoor of Gulab Devi hospital, Lahore were included in the study. Among these 200 patients, 100 were freshly diagnosed cases, placed in group-1. They had either not received antituberculous treatment or were on treatment for less than one week. The remaining 100 patients we-

re already diagnosed cases of pulmonary tuberculosis, placed in group-2. They had been on antituberculous treatment for at least three months. Clinical history and relevant information was collected in a proforma. Diagnosis of pulmonary tuberculosis was based on sputum smear positive for AFB after ZN staining technique. Twenty four hours urine was collected in a sterilised jar, centrifuged and sediment was used for ZN staining and AFB culture on LJ medium. Positive for one or both of these procedures was taken as positive for genitourinary tuberculosis. Biopsy of urogenital tract was carried out and histopathological examination was done in patients with positive bacilluria having urinary symptoms.

## RESULTS

Genitourinary organs of 9 patients in group-1 and 18 patients in group-2 were found involved for genitourinary tuberculosis. Among the 9 patients in group-1, urinary bladder and kidney involvement were highest i.e 3 (33.3%) followed by epididymis 2 (22.2%) and ureter 1 (11.1%). Among the 18 patients in group-2, urinary bladder involvement was highest 9 (50%), followed by kidney 5 (27.8%), epididymis 3 (16.7%) and testis 1 (5.5%). Table 1 shows pattern of genitourinary tuberculosis in patients with pulmonary tuberculosis.

**Table 1:** Pattern of genitourinary tuberculosis in patients with pulmonary tuberculosis.

Organ Involved Total (n = 27)	Freshly diagnosed Patients (n = 9)	Patients already on ATT (n = 18)
Kidney 8 (29.6%)	3 (33.3%)	5 (27.8%)
Ureter 1 (3.7%)	1 (11.1%)	0
Urinary Bladder 12 (44.4%)	3 (33.3%)	9 (50%)
Epididymis 5 (18.5%)	2 (22.2%)	3 (16.7%)
Testis 1 (3.7%)	0	1 (5.5%)

## DISCUSSION

Genitourinary tuberculosis is not very common but it is considered as a severe form of extra pulmonary tuberculosis. The true incidence of genitourinary tuberculosis may be underestimated since its diagnosis is challenging as laboratory, radiological and ultrasound findings may be absent. Genital tubercu-

losis is usually secondary to renal tuberculous infection.<sup>4</sup>

In the present study it is evident that out of total

patients, urinary bladder involvement was highest, 12 (44.4%), followed by kidney 8 (29.6%), epididymis 5 (18.5%), ureter 1 (3.7%) and testis 1 (3.7%). Some published data is available for comparison of genitourinary tuberculosis in patients with pulmonary tuberculosis. A study conducted by Buchholz et al, at Aga Khan University Hospital, Karachi observed that major organs involved were kidney, urinary bladder and epididymis.<sup>3</sup> A study by Allen and Kock on 52 urology patients with genitourinary tuberculosis shows that 75% of patients had renal and 17% epididymal involvement.<sup>5</sup> Kulchavenya and Khomyakov from Siberia, Russia reported that out of 514 patients with genitourinary tuberculosis, 414 (80.54%) had kidney tuberculosis, 58 (11.28%) had tuberculosis of prostate and 42 (8.17%) had tuberculosis of scrotum.<sup>6</sup> A study from Spain reported that the kidney was the sole site of infection in 50% of cases, the ureter and urinary bladder were affected in the remaining cases.<sup>7</sup> The findings of organ involvement are almost similar to our study as described earlier.<sup>3,8</sup>

In 1993, World Health Organization declared tuberculosis a global emergency but it still continues to account for burden of mortality worldwide. Our health authorities should endeavor to lower the increasing incidence of this fatal disease. This may be achieved by improving awareness in general public about the disease, BCG vaccination, early case finding and proper management.

It is **concluded** that genitourinary organs involvement in patients already on antituberculous treatment is more common as compared to freshly diagnosed cases. Urinary bladder involvement is highest in both groups.

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