Seminal Vesiculitis due to Mycobacterium gastri Leading to Male Infertility

R. Indudhara
K. Das
M. Sharma
S. Vaidyanathan

Departments of aUrology, bRadiodiagnosis and cMicrobiology, Postgraduate Institute of Medical Education and Research, Chandigarh, India

Key Words
Seminal vesiculitis
Tuberculosis
Infertility

Abstract
Tuberculosis of the genitourinary tract is a well-known cause of male infertility. However, infertility from infection by nontuberculous mycobacterium has not been reported. Herein, we present a case of seminal vesiculitis due to Mycobacterium gastri in a diabetic patient leading to male infertility. Improvement in semen quality was noticed after 6 months of therapy with isoniazid, ethambutol and rifampicin.

Dr. S. Vaidyanathan, MS, MCh, MAMS, PhD, Associate Professor, Department of Urology, PGIMER, Chandigarh-160012 (India)

Case Report
MCG, a 31-year-old male patient presented at our Male Infertility Clinic for evaluation of primary infertility of 5 years duration. He had been a known diabetic on insulin for 8 years. He was treated for pulmonary tuberculosis (type of organism not known) with isoniazid, rifampicin and ethambutol 3 years ago. Physical examination was unremarkable except for right epididymitis. Apart from an ESR of 56 mm at the end of the 1st hour, routine biochemical and hematological investigations were normal. Semen analysis revealed a total sperm count of 26 millions/ml with over 90% dead sperms and the remaining with distorted morphology. Urine and serum cultures were negative for routine aerobic and anaerobic bacteria. The urine culture grew Mycobacterium gastri at the end of 5 weeks, while semen culture did not reveal any acid-fast bacilli. Ultrasonogram (US) of the kidneys was unremarkable; however, US of the seminal vesicles revealed marked dilatation on both sides. Excretory uro-gram showed normal urinary system. Testicular biopsy revealed normal spermatogenesis. Left vasoseminal vesiculography showed no obstruction, but the seminal vesicle was dilated and tortuous. US-guided aspiration of the right seminal vesicle was done and contrast injected. CT scan taken following this revealed a dilated semi-
Fig. 1. CT scan of the pelvis after 6 days of US-guided contrast injection into the right seminal vesicle which is dilated and tortuous (a). The left seminal vesicle is also dilated (b).

1.5 ml creamy white 180 mg % 18 millions, all of them dead 25–30/HPF 5–10/HPF
no organism seen absent
negative
present for 5 weeks
Table 1. Analysis of the seminal vesicle aspirate

<table>
<thead>
<tr>
<th>Amount</th>
<th>Color</th>
<th>Fructose</th>
<th>Microscopy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sperms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pus cells</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RBC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacteriology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gram stain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acid-fast bacilli on smear</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Culture for aerobic and anaerobic organisms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M. gastri on culture</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The rest of the urinary tract was normal in the CT scan. The seminal vesicle aspirate characters are detailed in table 1. The aspirate yielded M. gastri after culture for 5 weeks. The patient was started on isoniazid, rifampicin and ethambutol, and at 6 months follow-up, his seminogram revealed a total count of 56 millions/ml, 30% with normal morphology and viability.

Discussion

Nontuberculous mycobacterial infections of the genitourinary tract are infrequently seen [1, 2]. M. kansasii and M. avium-intracellulare have been attributed to renal infections [3–5]. M. xenopi and M. faenza/so/z'-induced epididymitis have also been reported [6, 7]. Granuloma-tous prostatitis associated with isolation of M. kansasii was reported in a 31-year-old man from Omaha [8]. M. gordonnae, M. gastri, M. terrae-triviale and M. flaves-cans are grouped under atypical mycobacteria of little or no pathogenicity for man [3]. Urinary smears are notoriously
unreliable for the diagnosis of genitourinary tuberculosis because of contamination from the lower end of the urethra. M. smegmatis is the traditional contaminant [3]. However, in the present case, M. gastri was grown both from the urine as well as the seminal vesicle aspirate; the latter excludes any contamination from the urethral or proximal urinary system. The fact that the patient had a radiologically demonstrable abnormality in the seminal vesicles with normal urinary tract further supports the contention that the M. gastri isolated from urine and seminal vesicle aspirate was responsible for the disease leading to infertility.

The majority of the experience in the management of nontuberculous mycobacterial diseases has come from the treatment of respiratory diseases, which constitute over 90% of the reported nontuberculous mycobacte-rioses [9]. No definite answers are available to several questions relating to the group of patients to be treated, the drugs to be used and the duration of treatment [3]. Hence, the risk-benefit ratio of drug therapy must be considered carefully and each case needs a meticulous, individualized approach.

References