neurologic involvements are pupillary abnormalities, blepharoptosis, and facial palsy. Sensory loss is unusual in such a syndrome.2

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The author has reported to the ACCP that no significant conflicts of interest exist with any companies/organizations whose products or services may be discussed in this article.

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Impact of Pulmonary Tuberculosis on Menstrual Pattern and Fertility

To the Editor:

The association of pulmonary tuberculosis (TB) and female reproductive health problems is not well addressed.1–3 This prospective case-control study4 was done at Assiut University and Women’s Health University Hospitals to estimate the effect of pulmonary TB on menstrual patterns and fertility of women of child-bearing age. It was composed of 429 women with pulmonary TB of child-bearing age (study group) and 100 age-matched healthy women (control group). A detailed medical history was obtained, and a clinical examination, routine investigations of pulmonary TB, and transvaginal ultrasonography (TVS) were performed for all cases. Hysterosalpingography, combined laparoscopy and hysteroscopy, were done for infertile women when indicated. Menstrual abnormalities were reported in 66% of women in the study group. Secondary amenorrhea (112 cases, 26.5%; p < 0.001) and hypomenorrhea (86 cases, 20%; p < 0.001) were significantly higher in the study group compared with subjects in the control group (Table 1). Patients with more extensive chest-radiologic shadows and prolonged course of pulmonary TB were more susceptible. TVS revealed functional ovarian cysts in 85 women in the study group (19.8%). After completing antituberculous treatment, 76% of the study group had resumed normal menstrual cycles. Among 68 women who sought fertility within 1 year after completion of the treatment, TB peritubal and fine intrauterine adhesions were confirmed by hysterosalpingography in 2 women and 1 infertile woman, respectively (0.7% of study group), whereas persistence of the simple ovarian cysts was observed in 2 women.

This study highlights the importance of proper cooperation between chest specialists and gynecologists for women with TB. Menstrual abnormalities without pathologic affection of the female genital tract represent the salient abnormality associated with pulmonary TB. Routine TVS for those women is recommended. Pretreatment counseling should provide a hint about these temporary reversible changes. Pulmonary TB carries an insignificant risk of female fertility. Persistence of menstrual dysfunction or the presence of infertility after completion of treatment should attract attention about the possibility of genital tract involvement.

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REFERENCES

1 Tripathy SN. Genital affection in pulmonary TB. Indian J Tuberc 1991; 38:191–196


<table>
<thead>
<tr>
<th>Patterns</th>
<th>Study Group (429 Women)</th>
<th>Control Group (100 Women)</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal pattern</td>
<td>143 (33%)</td>
<td>72 (72%)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Secondary amenorrhea</td>
<td>112 (26.5%)</td>
<td>2 (2%)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Hypomenorrhea</td>
<td>86 (20%)</td>
<td>3 (3%)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Intermenstrual spotting</td>
<td>27 (6.5%)</td>
<td>6 (6%)</td>
<td>0.345</td>
</tr>
<tr>
<td>Menorrhagia</td>
<td>7 (1.5%)</td>
<td>2 (2%)</td>
<td>0.542</td>
</tr>
<tr>
<td>Dysmenorrhea</td>
<td>54 (12.5%)</td>
<td>15 (15%)</td>
<td>0.873</td>
</tr>
</tbody>
</table>

Table 1—Menstrual Patterns in Study and Control Groups

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