Scrub Typhus Complicating Pregnancy

Sir,

Scrub typhus, a zoonosis, is a widespread disease in Asia and Pacific Islands. The clinical picture of scrub typhus consists of mainly fever, rash, myalgia and lymphadenopathy. The complications of scrub typhus usually develop after the first week of illness. Jaundice, renal failure, pneumonitis, ARDS, septic shock, myocarditis and meningo-encephalitis are various complications known with this disease. During 2003 to 2006, scrub typhus was confirmed in five pregnant females. The clinical details of these patients along with laboratory investigations are shown in Table 1.

Patient no. 1 was referred to our hospital with fever for last 25 days. She had delivered a premature, low birth weight fetus 9 days back. The infant died after few hours of birth. She was treated empirically with inj ceftriaxone 1gm BD and tab doxycyclin 200 mg OD for 7 days. Patient no. 2 presented with advanced disease and was treated with inj azithromycin and ceftriaxone but she died after 21 hours of admission to the hospital. Patient no. 3 presented with altered sensorium, keeping in view presence of eschar, she was empirically treated with injection azithromycin 500 mg IV OD, she improved after 12 hours of admission to hospital and was given 5 days therapy. Patient no. 4 and 5 were treated with tab azithromycin 500 mg OD for 3 days due to result of Weil-felix test and presence of eschar respectively and were discharged from hospital after 3 days. The patient no. 5 delivered normally at local hospital and the pregnancy outcome of rest of two patients was not available as they were discharged from hospital after recovery and were not available for follow up.

Currently tetracycline (doxycycline) and chloramphenicol are recommended for treatment for non-pregnant patients. According to United States Food and Drug Association fetal risk summary, tetracycline is classified as a class D drug and should not be used during pregnancy. Chloramphenicol is classified as a class C drug. There are no available data to suggest that it is safe for use during pregnancy. Single dose of azithromycin 500 mg was successfully used in nine pregnant women suffering from scrub typhus without relapse and with favorable pregnancy outcomes. Azithromycin seems to be an effective agent against scrub typhus because it efficiently penetrates polymorphonuclear leukocytes and macrophages, which are target cells for O. tsutsugamushi. In addition, a long tissue half life and the long lasting post-antibiotic effects of azithromycin may explain no relapse despite the use of a single dose. In four cases of our case series azithromycin was used, three survived and one died. The death can be attributed to the fact that she presented to hospital late with multiple organs involvement. On screening English language literature for reports of pregnancy with scrub typhus from 1966 to 2006, total 22 pregnant women infected with scrub typhus were identified till date. The clinical features of the disease for pregnant females were same as for non-pregnant. Pregnancy outcome was closely related to the therapeutic outcome of each patient. Stillbirths and abortion were mainly observed in mothers whose scrub typhus was poorly controlled while there were no miscarriages in patients whose illness was completely controlled. Therefore, appropriate management of scrub typhus in pregnant women with effective regimens is critical for avoiding adverse pregnancy outcomes.

Table 1: Clinical and laboratory details of the patients

<table>
<thead>
<tr>
<th>Serial no.</th>
<th>Age in Years</th>
<th>Fever duration (days)</th>
<th>Chills/rigors</th>
<th>Vomiting</th>
<th>Headache/myalgia</th>
<th>Abdominal pain</th>
<th>Eschar/rash</th>
<th>Lymphadenopathy</th>
<th>Hepato-splenomegaly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>23Yr</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>2</td>
<td>18Yr</td>
<td>9</td>
<td>+/-</td>
<td>-</td>
<td>+/-</td>
<td>+/-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>23Yr</td>
<td>7</td>
<td>-</td>
<td>+</td>
<td>+/-</td>
<td>+/-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>26Yr</td>
<td>13</td>
<td>+/+</td>
<td>+</td>
<td>+/-</td>
<td>+/-</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>5</td>
<td>22Yr</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proteinuria</th>
<th>Urea/creatinine (mg/dL)</th>
<th>Bilirubin/SGOT/SGPT/Alkaline phosphatase IU</th>
<th>Weil-Felix test</th>
<th>Drug treatment</th>
<th>PCR</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>44/1.2</td>
<td>1.2/20/25/341</td>
<td></td>
<td></td>
<td>Positive</td>
<td>Recovery</td>
</tr>
<tr>
<td>+/+</td>
<td>118/2.2</td>
<td>2.2/285/302/1.2</td>
<td></td>
<td>Doxycyclin</td>
<td>Positive</td>
<td>Recovery</td>
</tr>
<tr>
<td>-</td>
<td>26/0.7</td>
<td>0.5/96/80/1000</td>
<td></td>
<td>Azithromycin</td>
<td>Positive</td>
<td>Recovery</td>
</tr>
<tr>
<td>-/+</td>
<td>29/0.8</td>
<td>0.4/60/68/1000</td>
<td></td>
<td>Azithromycin</td>
<td>Positive</td>
<td>Recovery</td>
</tr>
<tr>
<td>-/+</td>
<td>34/0.8</td>
<td>0.7/70/94/290</td>
<td></td>
<td>Azithromycin</td>
<td>Positive</td>
<td>Recovery</td>
</tr>
</tbody>
</table>

 serialize the data from the table for easier analysis.
Although azithromycin has been reported to be an effective antibiotic for the treatment of scrub typhus during pregnancy, our results suggest that delay in therapy and/or resistant strains may occur. This should be further investigated on clinical isolates using antibiotic susceptibility testing in the future.

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References


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