Rhabdomyolysis and systemic infection

Rhabdomyolysis is a well-recognised but underdiagnosed cause of acute renal failure. Most cases are secondary to trauma or ischaemia. More recently cases of non-traumatic rhabdomyolysis have been reported in comatose patients after overdoses of narcotics, sedatives, and alcohol, where pressure-induced ischaemia may be responsible. Rhabdomyolysis secondary to sepsis has not been recognised often despite early reports in patients with severe lung infections. We report three cases of rhabdomyolysis in patients with severe fungal and bacterial infections.

Case reports

Case 1—A 57 year old Nigerian man with glucose-6-phosphate dehydrogenase deficiency was admitted for investigation of acute renal failure. One year before admission a non-Hodgkin’s lymphoma with autoimmune haemolytic anaemia was diagnosed. In the week preceding his admission he complained of severe headache, fever, and a productive cough. Investigations showed severe haemolysis, haemoglobinuria, and acute renal failure. One week after admission his condition deteriorated; he became increasingly breathless and complained of severe myalgias. Bronchoalveolaraspergillosis was diagnosed by aspiration at bronchoscopy. Rhabdomyolysis occurred at the same time as the chest infection (table); a striated muscle biopsy confirmed the diagnosis. After treatment of the aspergillus infection with amphotericin B his clinical condition improved transiently and muscle enzyme values returned to normal. His condition subsequently deteriorated and he died from a cardiorespiratory arrest.

<table>
<thead>
<tr>
<th>Case No</th>
<th>Infection</th>
<th>Creatinine phosphokinase (IU/1) (normal range 0-200)</th>
<th>Phosphate (mmol/l) (normal range 0-1.25)</th>
<th>Calcium (mmol/l) (normal range 2-2.60)</th>
<th>Potassium (mmol/l) (normal range 3-5.5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bronchoalveolar aspergillosis</td>
<td>40 000</td>
<td>3.92</td>
<td>1.58</td>
<td>5.1</td>
</tr>
<tr>
<td>2</td>
<td>Staphylococcus epidermidis bacteremia</td>
<td>13 600</td>
<td>2.89</td>
<td>2.01</td>
<td>7.0</td>
</tr>
<tr>
<td>3</td>
<td>Legionella pneumophila pneumonia</td>
<td>11 130</td>
<td>2.43</td>
<td>1.69</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Conversion: SI to traditional units—Phosphorus: 1 mmol/l=3.1 mg/100 ml. Calcium: 1 mmol/l=4 mg/100 ml. Potassium: 1 mmol/l=1 mEq/l.

Case 2—An 18 year old Vietnamese man was admitted after a road traffic accident. On admission he was comatose with a right haemopneumothorax. A chest x-ray film showed a diffuse bilateral pulmonary infiltrate. As his respiratory function deteriorated mechanical ventilation was started and broad-spectrum antibiotics given. One week after admission two episodes of hypotensive septicaemia occurred and he developed acute non-oliguric renal failure. Ten days later and while on peritoneal dialysis he had a further septicemic episode; Acinetobacter spp and Staphylococcus epidermidis were cultured.