Three patients with fever and rash after a stay in Morocco: infection with *Rickettsia conorii*

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Content

• *Rickettsia conorii*

• Case reports

• Conclusion and take home messages

• Questions and answers

• References
Rickettsia conorii – Mediterranean spotted fever

- Rickettsia spp. – spotted fever group

- 4 different subtypes
  - R. conorii
  - R. conorii caspia
  - R. conorii israelensis
  - R. conorii indica

- Rhipicephalus sanguineus: brown dog tick

**Rickettsia conorii** – epidemiology

*Rickettsia species*

*Rickettsia conorii*

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Case 1

- 62 year old male
- Hypercholesterolemia: R/simvastatin 20 mg
- Recent 4 week stay in Morocco (July - August 2016)
- Symptomatology:
  - black necrotic scabbed skin lesion
  - generalized myalgia and fever (39.5°C)
  - generalized maculopapular rash
Case 1: tache noire
Case 1: maculopapular rash
Symptomatology of *Rickettsia conorii*

- Incubation time: 5–7 days → acute onset
- Fever (94–100%)
- Rash (87–96%): maculopapular or petechial
- Flu-like symptoms (78%)
- Tache noire (53–77%)

## Case 1: lab results (1)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium</td>
<td>127</td>
<td>mmol/L</td>
</tr>
<tr>
<td>Chloride</td>
<td>92</td>
<td>mmol/L</td>
</tr>
<tr>
<td>CRP</td>
<td>61,6</td>
<td>mg/dl</td>
</tr>
<tr>
<td>LDH</td>
<td>657</td>
<td>U/L</td>
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<tr>
<td>AST</td>
<td>86</td>
<td>U/L</td>
</tr>
<tr>
<td>ALT</td>
<td>98</td>
<td>U/L</td>
</tr>
<tr>
<td>AP</td>
<td>131</td>
<td>U/L</td>
</tr>
<tr>
<td>γGT</td>
<td>488</td>
<td>U/L</td>
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<tr>
<td>Thrombocytes</td>
<td>152</td>
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<tr>
<td>White blood cells</td>
<td>7,1</td>
<td>X 10³/mm³</td>
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</table>
Case 1: lab results (2)

- Negative blood cultures

- Serology:

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<tr>
<th>Micro-organism</th>
<th>IgM</th>
<th>IgG</th>
</tr>
</thead>
<tbody>
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<td>Hepatitis A virus</td>
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<td>+</td>
</tr>
<tr>
<td>Hepatitis C virus</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>EBV - CMV</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td><em>Rickettsia conorii</em></td>
<td></td>
<td>1/512</td>
</tr>
</tbody>
</table>

- Biopsy tache noire: positive PCR for *Rickettsia conorii*
Case 1: treatment

- Doxycycline 200mg/d
Case 2

- 66 year old male

- Medical history:
  - diabetes mellitus type 2: R/metformin
  - gastritis: R/pantoprazol
  - splenectomy (post trauma)
  - appendectomy
  - osteosynthesis left shoulder

- Recent stay for 4 months in Morocco (May – August 2016)
Case 2

- Symptomatology
  - fever (39.5°C)
  - headache
  - generalized myalgia
  - R/amoxicillin–clavulanate 2 days → maculopapular rash

- Initial differential at E.D.:
  - meningitis–encephalitis
  - pneumococcal sepsis
  - Mediterranean spotted fever
Case 2: lab results (1)

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Sodium</td>
<td>132</td>
<td>mmol/L</td>
</tr>
<tr>
<td>Chloride</td>
<td>94</td>
<td>mmol/L</td>
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<tr>
<td>CRP</td>
<td>241.8</td>
<td>mg/dl</td>
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<td>LDH</td>
<td>806</td>
<td>U/L</td>
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<tr>
<td>γGT</td>
<td>147</td>
<td>U/L</td>
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<tr>
<td>Thrombocytes</td>
<td>117</td>
<td>/mm³</td>
</tr>
<tr>
<td>White blood cells</td>
<td>10.5</td>
<td>X 10³/mm³</td>
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</table>
Case 2: lab results (2)

- Normal CSF analysis
- Normal CT brain
- CT thorax: COPD configuration, chronic bronchitis
- Negative blood cultures
- Serology:

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<thead>
<tr>
<th>Micro-organism</th>
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<tbody>
<tr>
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<td><em>Rickettsia conorii</em></td>
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<td>1/512</td>
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<tr>
<td><em>Rickettsia conorii</em> (1m)</td>
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<td>1/8192</td>
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Case 2: treatment

- Initially ceftriaxone IV
- After 2 days: doxycycline 200 mg/d
Meningoencefalitis in MSF

• Case reports: meningitis–encephalitis–myelitis

Case 3

• 59 year old woman

• Diabetes mellitus type 2: R/metformin

• Recent stay in Morocco (May – July 2016)

• Symptomatology:
  ➢ fever – generalized myalgia (present in Morocco since 4 days)
  ➢ maculopapular rash
Rash and tache noire
### Case 3: lab results

<table>
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<tr>
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<td>mmol/L</td>
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<tr>
<td>γGT</td>
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<td>Thrombocytes</td>
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<tr>
<td>White blood cells</td>
<td>5,0</td>
<td>X 10³/mm³</td>
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</tbody>
</table>
Case 3: treatment

- R/amoxicillin–clavulanate (empirically)

- After physical examination at internal medicine ward switched to doxycyclin 200mg/d

- Serology *R. conorii* initially negative

- Control sample running
Case 3: evolution CRP – AST
Conclusion and take home messages

• Include Mediterranean spotted fever
  ➢ fever
  ➢ maculopapular rash
  ➢ recent stay in endemic region

• Tache noire = pathognomonic

• Serology + PCR biopsy

• Treatment of choice: doxycycline
Questions and answers

Thank you all for listening.

Questions?


References (2)