Young woman with slowly expanding pre-sternal mass

Synne Jenum, H Brekke, T Schwartz, EM Løberg, T Wæhre, DH Reikvam.

Department of Infectious Diseases, Department of Medical microbiology and Department of Pathology,
Oslo University Hospital, Norway.
5 months earlier

• Localized chestpain
• Emergence of a pre-sternal erythematous lesion
• Repeatedly presented to her GP

Last 4 wks

• Fever
• Night sweats
• 5 kg weight loss
Medical history

• Originated from Bosnia. Lived in Norway since the age of 4y.
• Manager in chic department store.
• Single, no children.
• 5 y since last VFR in Bosnia.
• 1 month prior to symptoms, Dubai.
• LRTI successfully treated with antibiotics.
• No tobacco. No alcohol/drug abuse.
• No known TB contact.
• No contact with livestocks/pets.
Clinical examination

- Looked un-well
- Cachectic, BMI 18.5
- Body temperature 38.0°C
- Extremely tender elevated, red-violet, lesion, 5 x 7 cm.
- Systolic murmur 1-2/6
- No lymphadenopathy
What investigations had been done by Monday...

<table>
<thead>
<tr>
<th>Investigation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hgb</td>
<td>8.8 g/dL</td>
</tr>
<tr>
<td>WBC</td>
<td>$12.8 \times 10^9$/L</td>
</tr>
<tr>
<td>ESR</td>
<td>120 mm</td>
</tr>
<tr>
<td>C-reactive protein</td>
<td>200 mg/L</td>
</tr>
<tr>
<td>pl-procalcitonin</td>
<td>0.16 µg/L</td>
</tr>
<tr>
<td>Blood cultures</td>
<td></td>
</tr>
<tr>
<td>Induced sputum x 2</td>
<td></td>
</tr>
<tr>
<td>TB-IGRA</td>
<td></td>
</tr>
<tr>
<td>Serology HIV Ag/Ab, HCV, HBV, Trep</td>
<td></td>
</tr>
</tbody>
</table>
Differential diagnosis?

Additional investigations?
Our Differential

- **Mycobacteria?** → Negative AFB and PCR for Mtb complex
- **Brucellosis?** → With cardiac/bone involvement?
- **Nocardia?** → No risk factors...
- **Actinomycosis?** → No risk factors...
- **Malignancy?** → Negative cytology on FNA prior to admission.
Our patient deteriorated...

• Malaise and anorexia
• C-reactive protein 200-240.

Empiric treatment to target Brucellosis

• Doxycyclin 100 mg x 2 po.
• Rifampicin 15 mg/kg x 1 po.
• Gentamicin 5 mg/kg x 1 iv.
Additional investigations

- Bronchoscopy with bronchoalveolar lavage fluid (BAL)
- Brucella serology
- More blood cultures
- TTE
- Magnetic Resonance Imaging (MRI)
Pathologist calling...

HEx20

Gram x 40

PASx40

Photos: EM Loberg
Microbiologist calling...

BAL

Biospy-culturing

Gram stain

Blood agar

Chocolate agar

Str. anginosus

Aggregatibacter actinomycetemcomitans

Photo: H Brekke

Photo: H Brekke
What now?

Management?
Therapy

- benzylpenicillin 3 g x 4 iv, 4 wks → amoxicillin 500 mg x 3 po, 6 months.
- ciprofloxacin 750 mg x 2 iv/po, 2 wks.

Response to therapy?
1 week  6 weeks  3-4 months

Photos: S Jenum
Thoracic actinomycosis

Co-infectants:

*Str. anginosus* (BAL)
*Ag. actinomycemcomitans* (biopsy)