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dairy farm workers, 24 of which had been collected from the Royal Show at Stoneleigh in 1983 and a further 270 locally in Herefordshire; the rest were part of a survey conducted in Derbyshire by the Health and Safety Executive. Of the 400 sera investigated 15 showed a positive result, indicating past infection. Hardjo anti-

<table>
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<td>Beef</td>
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<tr>
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<tr>
<td>Meat inspectors</td>
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</tr>
<tr>
<td>Butchers</td>
<td>1</td>
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<tr>
<td>Veterinarians</td>
<td>2</td>
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<tr>
<td>Miscellaneous</td>
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Conclusion
Leptospirosis is not a new disease in the British Isles, but the epidemiological pattern has changed. Today those most at risk from icterohaemorrhagiae infection are farmers and those who pursue water sports. The predominant infecting serogroup of leptospira has also changed, with L. hebdomadis serovar hardjo now more frequently reported than L. icterohaemorrhagiae. Recent studies of the incidence of cattle associated leptospirosis show that at least 4% of all dairymen are at risk, but on the whole such infections remain undetected.

S A WAITKINS

References
3 Warthin S. Laboratory diagnosis of leptospirosis. Laboratory Technology 1983; No 17: 178-84.

Lesson of the Week

Acute respiratory insufficiency from psittacosis

M VAN BERKEL, H DIK, J W M VAN DER MEER, J VERSTEEG

Introduction
In man psittacosis varies from a mild influenza like illness to a feverish disease characterised by pneumonia and general symptoms.1,2 We describe four patients with acute respiratory insufficiency due to psittacosis, which led to the death of three of them.

Patients
Four patients were referred to our hospital because of respiratory insufficiency due to bilateral pneumonia, necessitating mechanical ventila-

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Psittacosis should always be borne in mind as a possible cause of fulminating pneumonia with respiratory insufficiency

from the day of admission (table). Two patients died within 24 hours, despite treatment including doxycycline, cloxacillin, and amoxycillin for one, and fluoxacillin, tobramycin, and erythromycin for the other. The third patient recovered gradually after treatment with oxytetracycline. In the fourth severe haemoptysis despite normal haemostasis was one of the presenting symptoms. He had been treated elsewhere for nine days with a variety of antimicrobial drugs, including doxycycline and rifampicin, to which tobramycin and azlocillin were added when Pseudomonas aeruginosa was cultured from his sputum. Nevertheless, the lung abnormalities progressed and hepatic and renal dysfunction and diffuse intravascular coagulation developed. He died on day 17.

Culture for aerobic bacteria, including legionella and mycobacteria, and attempts at isolating virus on human diploid cells and primary monkey kidney cells did not lead to a diagnosis in our patients. We did not attempt to isolate rickettsiae or chlamydiae. Chlamydia antigens were detected in sputum or lung tissue (table, figure) with an indirect immunofluorescence technique using a rabbit antiserum against purified Chlamydia psittaci antigens, prepared in our laboratory. A horse fluorescein isothiocyanate conjugated antirabbit gammaglobulin was used. The control slides were
treated with serum from non-immune rabbits. The immune adherence haemaggulination test was carried out with a commercially available complement fixing antibody (Virion) gave low titres (table). IgM or IgG antibodies were shown with an immunofluorescence assay performed on slides coated with cells infected with C trachomatis (table). For the IgM test sera were pretreated with anti-Fcγ and then absorbed.

Comment

An unusual feature of our patients with psittacosis was respiratory insufficiency as the presenting symptom. Three of them died of hypoxia, two despite treatment with a tetracycline. Respiratory insufficiency has been described as a cause of death in review articles but well documented case reports have not been published.

The pronounced leucocytosis found in our patients was also unusual, since the number of leucocytes is normal or slightly reduced in psittacosis. A relative bradycardia is often described, but was not seen in any of our patients. In the fourth patient massive haemoptysis was a major feature of his disease. Although the frequency of haemoptysis in psittacosis has been estimated at 11%, we have not found a report of such a severe case.

Immunofluorescent study of lung tissue from case 4 with monospecific antibodies against chlamydia showing suspicious inclusion bodies in a pneumocyte.

In all cases the diagnosis was based on the presence of inclusion bodies in pneumocytes that were positive for C psittaci antigens with the immunofluorescence test. In our last patient sputum was also tested with this technique and found positive for C psittaci antigen in ciliated cells as well. IgM or IgG antibodies were shown in the sera of all patients, and because of these findings we were able to initiate specific treatment with tetracycline in cases 3 and 4.

These cases illustrate that in patients who present with respiratory insufficiency due to pneumonia the diagnosis of psittacosis should be considered even if there has been no known contact with birds. If possible, chlamydia antigens should be sought for in sputum or biopsy specimens, and sera should be screened for IgM and IgG antibodies. While the results of investigations are being awaited antimicrobial treatment should include a tetracycline preparation.

References


Details of patients

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<th>Patient No</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
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<td>43</td>
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<tr>
<td>Sex</td>
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<td>F</td>
<td>F</td>
<td>M</td>
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<tr>
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<td>14</td>
<td>7</td>
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<tr>
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<td>25.5</td>
<td>23.5</td>
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<td>Pso (kPa)</td>
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<td>4.5</td>
<td>4.6</td>
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<td>positive*</td>
<td>positive†</td>
<td>positive†</td>
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<td>64</td>
<td>32</td>
<td>64</td>
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<td>&gt;256</td>
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<tr>
<td>Immunofluorescence assay: IgM (highest titre)</td>
<td>32</td>
<td>1024</td>
<td>negative</td>
<td>negative</td>
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</table>

*Postmortem lung tissue. †Lung biopsy specimen. ‡Sputum.

What treatment is advised for a young woman who has had a traumatic rupture of the anterior cruciate ligament of her knee?

There is still controversy about the role of the anterior cruciate ligament. Some believe that its rupture, in isolation, causes no problems of stability, while others think that the anterior cruciate ligament is all important and should be repaired or augmented whenever injury to it is diagnosed. Most orthopaedic surgeons agree that such repairs are best undertaken in the acute phase of the injury. Regrettably it is rarely diagnosed at this stage. Late repairs of this ligament should be approached with caution. The patient should be taught quadriceps and hamstring exercises and these, coupled with modification of athletic requirements, may be sufficient to permit her to live a perfectly normal life. If the knee is so unstable that it disrupts her life severely then surgery should be considered. This step should not be taken lightly, and most patients are well advised to pursue the conservative regimen of management. The unstable knee can cause meniscal damage and early degenerative arthritis in the joint. Stabilisation may well prevent the early degenerative arthritis in the joint. Stabilisation may well prevent the early degenerative arthritis in the joint.

A fit man aged 70, apart from some osteoarthritis, complains of excessive foul smelling flatus which he has had for several months. He passes two or three fairly soft stools a day. He takes twice daily medication of a non-steroidal anti-inflammatory drug. He has had for several months. He passes two or three fairly soft stools a day. He takes twice daily medication of a non-steroidal anti-inflammatory drug. He has had for several months. He takes twice daily medication of a non-steroidal anti-inflammatory drug. He has had for several months. He takes twice daily medication of a non-steroidal anti-inflammatory drug.

Excessive passage of flatus may be due to aerophagy or excessive fermentation of unabsorbed nutrients, usually carbohydrates. The latter may occur in a normal individual who eats large quantities of cabbage or beans, or less commonly in patients with malabsorption due to lactase deficiency. Non-steroidal anti-inflammatory drugs commonly lead to diarrhoea or constipation, and even steatorrhoea has been reported. "Flatulence" is a less common side effect, however, and few studies specify whether the term refers to flatulence and only four of these to excessive flatus (personal communication, J Powell, Farmitalia Carlo Erba Limited). The mechanism of production of excessive flatus by Flosint is unknown. Levitt's methods of measuring and analysing flatus distinguish between an aerophagist and a non-aerophagist and that these only arise when other structures, such as the capsule, are damaged.

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