Deep Seated Infection due to Lactobacillus caseii

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SUMMARY: A case of intra-abdominal sepsis caused by a vancomycin resistant Lactobacillus is described.

Introduction
Lactobacilli are normal commensals of both gastrointestinal and genito-urinary tracts. They are very rarely reported as a cause of sepsis (1,2,3,4,5,6,7,8).

This case illustrates the problems that are associated with diagnosis and treatment.

Case Report
A 79-year-old man was admitted to the Queen Elizabeth Military Hospital with a three week history of right sided abdominal pain. He had a previous history of cholecystectomy and rectal polyp excision six months prior to admission.

On admission examination revealed an unwell elderly man with a pyrexia of 38.5°C and signs of left sided heart failure. He had a harsh systolic murmur.

Laboratory investigations showed a leucocytosis of 17.5 x 10⁹/l (Neutrophils 82%), a C reactive protein (CRP) of 109 mg/l and raised liver enzymes.

Echocardiography demonstrated calcification of the aortic valve, mitral annulus and papillary muscle. Initial blood cultures were sterile.

The initial clinical diagnosis was one of infective endocarditis and treatment was started with parenteral ampicillin and gentamicin. One week after admission he remained unwell with an intermittent pyrexia. Computed tomographic scan (CT) demonstrated an enlarging, multi-loculated intra-abdominal abscess with subhepatic, peri-renal and peri-pancreatic collections. The sub-hepatic abscess was drained and 300 mls of pus was drained using a pig tailed catheter.

Initial Gram stain of this pus revealed gram positive cocci and pus cells. Culture of this grew Lactobacillus caseii ss rhamnosus. Identity confirmed by the Central Public Health Laboratory, Colindale.

Minimum inhibitory concentrations were as follows:

<table>
<thead>
<tr>
<th>Antimicrobial</th>
<th>Minimum Inhibitory Concentration (mg/l)</th>
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<tbody>
<tr>
<td>Ampicillin</td>
<td>2.0</td>
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<tr>
<td>Gentamicin</td>
<td>2.0</td>
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<tr>
<td>Methicillin</td>
<td>32.0</td>
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<tr>
<td>Vancomycin</td>
<td>32.0</td>
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<tr>
<td>Teicoplanin</td>
<td>16.0</td>
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<tr>
<td>Ciprofloxacin</td>
<td>0.6</td>
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Following initial drainage his clinical condition especially cardiac function improved. However he continued to have a persistent pyrexia and so ciprofloxacin was added to his initial antimicrobial chemotherapy fourteen days after admission. Subsequent drainage of the sub-hepatic abscess was carried out three and five weeks after admission. No organism was cultured from pus drained at this time. Ampicillin and gentamicin were discontinued at three weeks and ciprofloxacin at six weeks. At this point the patient was well, apyrexial and the (CRP) had fallen to 30 mg/l. He was therefore discharged.

During follow up a repeat CT scan at four months revealed a persistent abscess in the right iliac fossa with a communication to the right hypochondrium. This was successfully drained surgically and the pus obtained was sterile.

Discussion
Lactobacilli are a group of acid resistant Gram-pos-
tive, non sporing bacilli which occur in the intestine of most mammals being especially numerous during the stage of suckling. They also form the dominant flora of the vagina between menarche and menopause where the ability to ferment glycogen produces an acid pH. In this location they are known as Doderlein's bacilli.

These organisms often have multiple resistance, in particular resistance to vancomycin and teicoplanin is an increasingly important problem (4,9). Most Gram positive organisms are sensitive to vancomycin and teicoplanin and these antibiotics are often recommended in the empirical treatment of gram positive infections and in particular endocarditis(10). Lactobacillus caseii ss rhamnosus was the only organism ever isolated from this patient's intra-abdominal abscess. The portal of entry was presumably at the time of gall bladder surgery. Unlike most previously reported cases this patient was not immunocompromised.

The diagnosis of endocarditis was not proven bacteriologically but there were strong clinical grounds to support the diagnosis and his cardiac problems improved rapidly with chemotherapy. Our initial misidentification on the Gram stain as a Streptococcus is well recognised (7).

This case was unusual in being caused by a vancomycin resistant Lactobacillus which may be an emerging clinical problem(4). It reinforces the necessity of accurately identifying these organisms and determining their antimicrobial susceptibilities.

Acknowledgements

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REFERENCES