Autoimmune Thyroiditis in an Adult Male Associated with Hepatosplenic Bartonella henselae Infection

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Introduction

Bartonella henselae infections most commonly present as a regional necrotizing/granulomatous lymphadenitis, but disseminated organ involvement is well-recognised, usually in patients with immunodeficiency1. Presumed autoimmune phenomena, including thyroiditis, have been reported with paediatric infection but not in adults2.

Case Description

A previously healthy 41-year-old male presented with 2 weeks of fevers, epigastric discomfort and headaches. There was no recent travel history and no HIV infection risk factors. He owned a cat, which frequently scratched him. Physical examination revealed mild hepatomegaly but no peripheral lymphadenopathy.

Abnormal blood findings included neutrophil leucocytosis, elevated C-reactive protein and mild liver function derangement. Bartonella henselae antibody was detected by IFA at a titre of 1024, remaining elevated but unable to be accurately titred because of background staining at 6 and 8 weeks. Whole blood and serum Bartonella PCR was negative.

Ultrasound revealed multiple hypoechoic lesions and PET scan demonstrated small FDG-avid lesions throughout the liver and spleen as well as intense uptake in the thyroid. Subsequent ultrasound showed glandular destruction, with no viable tissue for fine needle aspiration. TSH was elevated at 100 pmol/L with free T4 10 mU/L and anti-thyroid peroxidase antibody 660 kU/L. HIV antibody/antigen was negative and T-cell immunophenotyping normal.

The patient started empiric antibiotic therapy, receiving 14 days’ total doxycycline, the initial 5 days in combination with IV ceftriaxone. On clinic review he reported continued fevers and C-reactive protein and neutrophil count had increased. Biopsies of liver and bone marrow were refused and at the completion of a 6-week course of doxycycline plus rifampicin the patients symptoms and elevated inflammatory markers improved significantly.

Discussion

This unusual presentation of thyroiditis with disseminated B. henselae infection may have been due to direct infection or an auto-immune response provoked by infection, as reported in one paediatric case2. As far as we know this is the first case described in adults and no other alternative concurrent diagnosis could be identified.

This case highlighted the difficulty in diagnosing this condition as the only evidence in this man is a single positive IFA, which was unable to be repeated on subsequent specimens, made even more difficult by a patient unwilling to have any invasive investigations or indeed adequate follow up imaging. It is clear to us that to make a certain diagnosis of a B. henselae infection at least two different diagnostic modalities are required to prove the diagnosis and in this case there was no PCR, histopathology or positive culture results1.

Treatment likewise has no established evidence basis, in this case treatment was directed by past experience with B. henselae endocarditis and 6 weeks of Rifampacin 600mg daily and Doxycycline 100mg twice daily was used which resulted in symptom resolution and improvement of CRP and liver function tests.

Table 1- Results Pre & Post Treatment

<table>
<thead>
<tr>
<th>Date</th>
<th>CRP (mg/L)</th>
<th>ALT (U/L)</th>
<th>GGT (U/L)</th>
<th>AlkPhos (U/L)</th>
<th>Neutrophils (10^9/L)</th>
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<tr>
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<td>430</td>
<td>52</td>
<td>101</td>
<td>276</td>
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<td>107</td>
<td>215</td>
<td>6.26x10^9</td>
</tr>
</tbody>
</table>

Reference