Lyme Psychosis: Only Treatment is Antibiotics

Background

Lyme borreliosis (LB) is a multisystemic disease characterized by cutaneous, articular, cardiac, and neuro-psychiatric manifestations. Multiple practitioners have reported positive correlation between LB and psychiatric manifestations, not recognized by several medical practitioners. In our institution in a 3-year interval, we have seen numerous occasions, where Lyme cases have been misdiagnosed. Here we report 3 cases of “Lyme Psychosis” that rapidly responded to standard LB treatment. Case reports are presented here:

1. Panic Disorder
2. Auditory Hallucinations
3. Confusion and Memory Loss

Table 1. Reported Psychiatric Disorders associated with Lyme Disease

<table>
<thead>
<tr>
<th>Case</th>
<th>Psychiatric Disorder</th>
<th>Description</th>
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<tbody>
<tr>
<td>Case 1</td>
<td>Auditory Hallucinations</td>
<td>Patient complained of hearing voices</td>
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<tr>
<td>Case 2</td>
<td>Confusion and Memory Loss</td>
<td>Patient exhibited symptoms of confusion and memory loss</td>
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<tr>
<td>Case 3</td>
<td>Panic Disorder</td>
<td>Patient experienced panic attacks</td>
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Lyme Psychosis: “Fever Delirium” or “Wanderer Delirium”

Case 1

A 52-year-old male was seen by a family practitioner for an erythema migrans (EM) rash on right shoulder one week after a tick bite. He was started on oral doxycycline. Six days later, suddenly became agitated, started attacking people and set off alarms in the building by opening emergency exit doors.

VS: T 98.9, P 62, RR 161, BP 181/73 Labs: WBC 8200, Platelets 165.00, AST 46 (NL 5-45), ALT 33. The patient was brought to the hospital by police, admitted and kept on 1:1 observation under restraints. He refused a spinal tap and intravenous treatment.

He was continued on oral doxycycline for three weeks and made a complete recovery.

Case 2

A 59-year-old female was seen in the emergency room for body aches and fever. She was sent home with a diagnosis of “flu.” The patient continued to have fevers. The daughter noticed her hallucinating and having conversations with her dead husband. She was admitted with fever, headache, lightheadedness, photophobia, mental confusion and auditory hallucinations.

She also had left knee pain one day prior to admission. VS: T 101.1, P 86, RR 20, BP 122/65. Labs: WBC 9100, Platelets 114.00, AST 21, ALT 156. Five different health care providers in the emergency room and hospital ward missed the EM rash on her left shoulder. The patient recalled a tick bite on left shoulder about a week prior to admission. She complained to Intravenous ceftriaxone and discharged 2 days later to continue doxycycline for two weeks.

Case 3

A 77-year-old female with a history of EM, Positive Western Blot test for LB, pacemaker for heart block, started recently on outpatient iv ceftriaxone treatment for neuroborreliosis with high CSF protein detected at another hospital was brought by the family for sudden onset of confusion and memory loss. She developed a fever 100.2 and platelet count was low due to a suspected mixed infection with Babesia. Fever, anemia and thrombocytopenia resolved on treatment with atovaquone and azithromycin. The patient’s memory loss and confusion resolved on continued ceftriaxone. She completed a full 6-week course.

Discussion

Use of microorganisms matching common conditions, as described presentations are often missed.1, 2 Multiple CNS and psychiatric disorders have been associated with LB. Cases where there was a clear response to antibiotic treatment suggests a definite etiologic association. Acute psychosis in cases 1 and 2 were early manifestations. Cognitive changes in case 3 was a late manifestation.

In areas with LB, recognition of Lyme Psychosis is important to prevent:
1. Unnecessary psychiatric consultations
2. Inappropriate treatment of patients with psychotropic drugs.
3. Incorrect labelling of patients as mentally ill.

All three of our patients responded to LB treatment.

References

1. She WM, Tlstyjek Psychosis: Signs and significance of a tick-bite: psychiatric disorders associated with Lyme disease: 2012; 54:335-343

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