Tick Borne Associated Thrombocytopenia Among United States Veterans in Long Island New York

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Background

- Long Island, New York, is highly endemic for tick borne illnesses (TBI)
- Thrombocytopenia is a known complication of babesiosis caused by Babesia microti, anaplasmosis caused by Anaplasma phagocytophilum, and ehrlichiosis caused by Ehrlichia chaffeensis.
- We identified cases of thrombocytopenia attributed to TBI in our institution.

Demographics and Clinical Features N=32

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<tr>
<th>COHORT CHARACTERISTICS</th>
<th>LABORATORY FINDINGS</th>
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<tr>
<td>• Median Age: 62 (31-89)</td>
<td>• Median Platelets: 88,000/µL (36,000 – 161,000)</td>
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<td>• Men: 100%</td>
<td>• Median Temperature 101.9°F (range 97.6°F-105.2°F)</td>
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<td>• Caucasian 29 (91%)</td>
<td>• Median Hemoglobin 12 g/dL (5.9-1 15.6)</td>
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<td>• Black 3 (9%)</td>
<td>• Median ALT 41 IU/L (6-330)</td>
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<td>• Reported history of tick exposure: 12 (37.5%)</td>
<td>• Median LDH 335 IU/L (193-1322)</td>
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<td>• Hypertension 13 (56%)</td>
<td>• Lyme C6 Peptide positive: 12 patients (37.5%)</td>
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<td>• Diabetes 2 (6%)</td>
<td>• Haptoglobin checked in 8 cases: undetectable</td>
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<td>• Hyperlipidemia 12 (37%)</td>
<td>• Babesiosis peak parasitemia:</td>
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<td>• Heart disease 3 (9%)</td>
<td>• Median 1.4% (0.1-3.0%)</td>
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<td>• Hepatitis C 3 (9%)</td>
<td>• B. microti PCR available in 14 cases: 100% POSITIVE</td>
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<td>• Malignancies 2 (6%)</td>
<td>• Morula seen on one case of E. chaffeensis</td>
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Methods and Materials

- Retrospective chart review of patients diagnosed with babesiosis, anaplasmosis, and ehrlichiosis from 2000 to 2017 at Northport Veterans Affairs Medical Center (VAMC).
- Demographics, method of diagnosis (PCR/serologies), CBC/Chemistries, treatment choices and outcomes were analyzed.

Results

- 27 Patients hospitalized
- Length of stay median days: 4 (range 1-10)
- ICU stay: six patients
- 4 required transfusions
- 20 babesiosis cases were treated with azithromycin
- All 10 of the HME and HGA were treated with primaquine.
- One Veteran with history of splenectomy and babesiosis with 3% parasitemia required exchange transfusion with 12 units of PRBC’s.
- 1 patient developed NSTEMI and required coronary stent placement
- No deaths occurred

Conclusion

- The incidence of Tick borne Illness in Long Island NY is rising
- Febrile illness and thrombocytopenia among US Veterans living in Long Island NY should raise possibility of Tick Borne Disease
- PCR Testing accurately and quickly establishes the diagnosis

References