Case 38

OADDL 14031115-3-Bovine

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Signalment/History

- 5 yr. old Angus mix cow
- Native grass pasture
- Sudden death – found dead in pasture
- Vaccination history uncertain and sporadic
- Herdmates unaffected
Few gross lesions
Adventitial Placentation
Small focus of cerebral meningeal hemorrhage
Modest meningeal edema of cerebellum
Suspected toxicologic etiology
  - Specimens acquired
  - Ocular fluid nitrate normal
Suspected metabolic etiology
  - Diagnosis of exclusion often

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Severe infiltrate of small and large lymphocytes within Virchow-Robin’s spaces
  o Fewer histiocytes and plasma cells
  o Affects grey AND white matter; White more severe
Perivascular cuffs are 1 to 7 cell layers thick
Modest increase in cortical glial cells
Mild lymphocytic infiltrate of the leptomeninges
No inclusion bodies or infectious agents are seen.
Histopathology: Present Case, Cerebrum
Histopathology: Present Case, Cerebrum

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Histopathology: Present Case, Brainstem

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Gross Diagnosis:
  o Open

Morphologic Diagnosis:
  o Brain, cerebrum: Nonsuppurative encephalitis, severe, diffuse

Virology: Rabies negative
  o BHV-1, BHV-4 FA negative
  o General herpes PCR positive
  o Amplicon consistent with BLHV
## Non-suppurative encephalitis

**PCR Amplicon consistent with BLHV**

<table>
<thead>
<tr>
<th>OADDL Accession #</th>
<th>Age (yrs)</th>
<th>Breed</th>
<th>Sex</th>
<th>Signs and History</th>
<th>Production Style</th>
<th>Pregnant</th>
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<tbody>
<tr>
<td>06081547</td>
<td>4</td>
<td>Holstein</td>
<td>Cow</td>
<td>Anorexia; Mastitis; Possibly Nervous</td>
<td>Dairy</td>
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<tr>
<td>08030227</td>
<td>6</td>
<td>Angus</td>
<td>Bull</td>
<td>Nervous; ‘Salt’</td>
<td>Range</td>
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<td>08041136</td>
<td>5</td>
<td>Cross</td>
<td>Cow</td>
<td>Chronic Nervous</td>
<td>Range</td>
<td>No</td>
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<td>9</td>
<td>Angus</td>
<td>Cow</td>
<td>Chronic Nervous</td>
<td>Range</td>
<td>8 mos</td>
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<td>11060660</td>
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<td>Angus X</td>
<td>Cow</td>
<td>Sudden death</td>
<td>Range</td>
<td>5 mos</td>
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</tbody>
</table>
Discussion

- Bovine lymphotropic herpesvirus – BHV-6
- Gammaherpesvirus
- Rhadinovirus genus – Macavirus genus
- Distinct from:
  - Malignant catarrhal fever virus (OvHV-2)
  - BHV-4
- Associated with an atypical cluster of bovine encephalitis cases in our case series.


Dr. Sanjay Kapil, Virologist

OADDL Histology
  - Curtis, Ashley, Eron

Oklahoma State University: Travel/CE Support