PLANTIGRADY DUE TO A LOCALIZED MYOPATHY IN TWO NEWBORN BELGIAN BLUE CALVES

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INTRODUCTION
Gastrocnemius rupture causing abnormal flexion of the hock is a common traumatic disease observed in cattle. Spontaneous rupture of the gastrocnemius mainly occurs at the muscle-tendon junction and a direct trauma may lead to gastrocnemius tendon avulsion at the tuber calcaneus. We herein report two cases of gastrocnemius dysfunction leading to hock hyperflexion, also called « plantigrady », in two newborn calves due to a localized severe myopathy referred to the Clinic for Ruminants of the University of Liège.

HAEMATOLOGY & BIOCHEMISTRY (Abnormal values)

<table>
<thead>
<tr>
<th></th>
<th>Case 1</th>
<th>Case 2</th>
<th>Normal values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leukocytes (cells/l)</td>
<td>21,450</td>
<td>11,000</td>
<td>4,000 - 12,000</td>
</tr>
<tr>
<td>Neutrophils (cells/l)</td>
<td>16,152</td>
<td>8,800</td>
<td>650 - 4,500</td>
</tr>
<tr>
<td>CPK (UI/l)</td>
<td>5,550</td>
<td>2,955</td>
<td>128 - 244</td>
</tr>
</tbody>
</table>

CASE 1

- Patient: Belgian Blue calf, male, 7 days old, 58.00 kg
- History: The calf was born by C-section without abnormalities. The calf was referred because he was not able to stand up since he was 2 days old. He had previously been treated with non-steroidal anti-inflammatory drugs and vitamins without success.
- Clinical examination: Weakness, tachypnea and hyperthermia
- Special examination: The right hind limb was swollen, hot and painful from the hip to the claws. The calf was not able to stand-up on his own and did not bear weight on his right hind limb. Deep pain sensation in this limb was present but motor function was completely absent.

Muscular biopsy

- Histological examination: Severe acute and chronic necrotic myositis (Figure 5).
- Bacteriology: Staph. Pseudointermedius MRSI sensitive to florfenicol & tetracycline.

Treatment case 1

- Poor vital prognostic but decision of treatment with the breeder.
- Surgical drainage of the right thig, NSAIDS & ampiciln = 25 mg/kg, intravenously every 6 hours during 4 days then 15 mg/kg intramuscular, BID, during 5 days.
- After bacterial culture: tetracycline, 20 mg/kg, SID, intramuscular, 10 days.
- The calf kept a severe lameness but a good general condition. He was slaughtered at 5 months with a normal carcass weight while he presented difficulties to stand up.

CASE 2

- Patient: Belgian Blue calf, male, 7 days old, 70.00 kg
- History: The calf was born by C-section, from an embryo transfer, without abnormalities. At birth, he presented an acute respiratory distress syndrome and was treated with antibiotics, steroidal and non-steroidal anti-inflammatory drugs.
- Clinical examination: Weakness, tachypnea and hyperthermia
- Special examination: The calf was not able to stand up alone and presented a bilateral plantigrady (Figure 1). Deep pain sensation of the hind limbs was maintained but motor function was completely absent.

Muscular biopsy

- Histological examination: Severe acute and chronic necrotic myositis with the presence of cytoplasmic calcification (Figure 7).
- Bacteriology: Contaminated flora

Selenium dosage

- In liver: 3,158 mg/kg
- Normal values = 0,15-1,5; toxicity > 10.

Special examination: The calf was not able to stand up alone and presented a bilateral plantigrady (Figure 1). Deep pain sensation of the hind limbs was maintained but motor function was completely absent.

Diagnostic imaging case 2

Radiographies of the pelvis and the hind limbs

- Heterogeneous soft tissue swelling.
- Ultrasonography of the thighs
  - Larges hyperechoic images with mainly homogeneous pattern but few of them contain hyperechoic ill delineated areas.
  - These images were distributed in multifocal areas of gluteobiceps, gastrocnemius, femoral biceps and semitendinosus muscles of each thigh and in the semimembranous muscle of the left thigh (Figures 4A, B & C).

Necropsy & histology

- Subcutaneous and intramuscular hemorrhages (Figure 6).
- A localized myodystrophy of the gastrocnemius muscles (Figure 7).
- No nervous dysfunction but a severe muscular degeneration with the presence of cytoplasmic calcification (Figure 8).

Bacteriology

- Contaminated flora

Selenium dosage

- In liver: 3,158 mg/kg
- Normal values = 0,15-1,5; toxicity > 10.

Figure 1: Calf unable to stand up alone with a bilateral plantigrady.