

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

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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.

The first case is a seven-day-old Belgian blue male calf weighing 58.00kg. He was born by C-section without abnormalities. He was referred because he was not able to stand up since he was 2 days old. He had previously been treated with non-steroidal inflammatory drugs (NSAIDs) and vitamins without success. The initial clinical examination revealed weakness, hyperthermia and tachypnea. The calf was not able to stand-up on his own and was not bearing weight on his right hind limb which was swollen, hot and painful from the hip to the claws. Deep pain sensation of the right hind limb was present but motor function was completely absent. Hematological analysis highlighted a severe neutrophilia and the blood biochemistry revealed a severe increased of the creatinine phosphokinase enzymes (CPK). Radiographies of the right hind limb revealed a heterogeneous soft tissue swelling with radioluminescent spots caudally to the tibia without bone abnormalities. Ultrasonography of the right thigh showed a hyperechoic spots (gas) in gastrocnemius and long digit extensor muscles, without evidence of fluid collection and an enlarged right popliteal lymph node. A muscular biopsy of the gastrocnemius muscle was performed under general anesthesia. Histopathological examination identified a very severe acute and chronic necrotic myositis. Bacterial culture identified a multiresistant *Staphylococcus pseudointermedius* sensitive to fofenicol and tetracycline. Despite the poor prognosis, the breeder decided to try a treatment using tetracycline and NSAIDs. After two months, the calf is still alive with a good condition. Lameness of the right hind limb is still present. The growth is slightly delayed, compared to other calves of the same age.

The second is also a seven-day-old Belgian blue male calf weighing 70.00kg. He was born by C-section, from an embryo transfer, without abnormalities. He was referred for a sudden weakness of the hind limbs since three days. At birth, he presented an acute respiratory distress syndrome and was treated with antibiotics, NSAIDs and steroidal drugs. The initial clinical examination revealed pale mucous membranes, tachycardia and tachypnea.

The calf was not able to stand up alone and presented a bilateral plantigrady. Deep pain sensation of the hind limbs was maintained but motor function was completely absent. Hematological parameters were within normal limits and the blood biochemistry revealed a moderate increase of the creatinine phosphokinase (CPK) and the aspartate transaminase (AST) enzymes. Radiographs of the pelvis and the hind limbs revealed only a bilateral amyotrophy of the tight. Ultrasonography of the tights highlighted several intramuscular larges hyperechoic images with mainly homogeneous pattern but few of them contain hypoechoic ill delineated areas. These images were distributed in multifocal areas of gluteobiceps, gastrocnemius, femoral biceps and semitendinous muscles on lateral side of right and left thighs and on medial region of left thigh, in semimembranous muscle. The calf was euthanized because of the very poor prognosis associated with a bilateral myopathy with plantigrady. Necropsy revealed subcutaneous and intra-muscular hemorrhages and a localized myodystrophy of the gastrocnemius muscles. Histopathological analysis ruled out central and peripheral neurological dysfunction and identified a severe muscular degeneration with the presence of cytoplasm calcification suggesting a nutritional myodegeneration. Vitamin E and selenium dosage are ongoing.

Plantigrady is a rare disease affecting calves. We herein report two cases of plantigrady. The first case was due to a severe MRSI myopathy of which the origin was not determined. There was no history of injection in the tight. An umbilical infection may be suspected. For the second, a myodegeneration of the gastrocnemius muscle was determined but the etiology remained unknown.