LACTATION TETANY IN A PONY AND ITS THERAPEUTIC MANAGEMENT

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Abstract

A two-year-old recently foaled pony was presented to the Large Animal Medicine Unit of Madras Veterinary Teaching Hospital with a history of reduced appetite and inability to walk. Physical examination revealed mild muscle tremors, stiffness of hindlimbs, ataxia, dry muzzle, and elevated temperature. Laboratory investigation revealed phosphorus, potassium, and decreased Calcium. Based on the history, clinical signs and laboratory findings, the case was diagnosed as hypocalcaemia. With 400 ml of Inj. 25% Calcium Borogluconate I/V and supportive therapies, the animal responded positively to treatment and showed good recovery. Keywords: Lactation tetany, Calcium Boro-gluconate

Introduction:

Lactation tetany is a metabolic neurotic disorder of mares, and also known as eclampsia or transit tetany or Hypocalcaemia. the occurrence of lactation tetany is common in recently foaled, due to a rapid reduction in serum ionic calcium levels and excretion of calcium in milk, which shows abnormal behaviours with similar clinical signs of tetany.

It occurs in mares that receive poor roughage, low calcium diets, and sometimes due to gastrointestinal diseases that cause poor calcium absorption and prolonged physical work or exercise (stress of work) or transport. The deficiency of vitamin D also interferes with calcium absorption from the intestines.

The present case was reported to be a recently foaled pony with the primary complaint of reluctance to walk, and stiff gait, the animal was under dry forages and concentrate feeds.

Case History and Observation

A two-year-old female pony foaled a week back, which was presented to the Large Animal Medicine Referral unit of Madras Veterinary teaching Hospital with the primary complaint of being reluctant to walk and anorectic for the past 2 days. On clinical examination the animal was found to be active and alert with mild muscle tremors noticed on physical examination. Vital parameters, cardiac and lung auscultation were found to be normal. On orthopaedic examination, limbs showed moderate stiffness in the hind limbs and difficulty in walking was noticed.

Laboratory findings:

The haematological parameters such as RBC (6.29 m/cmm), haemoglobin 11.3g/dl, platelets at 3.3lakhs/cmm and WBC 9800/cmm with neutrophils 50% in the smear. the serum electrolytes values showed Calcium as 11.5mg/dl, phosphorus as 9.7mg/dl, potassium, as 2.3mg/dl, and Sodium level 142 mg/dl. Hepatic and Renal values were normal in range. Haematology appears normochromic normocytic and electrolyte disturbances were noticed in serum.

Treatment:

The animal was treated with 400ml of Inj. 25% Calcium Boro-gluconate administrated intravenously as a slow infusion, Inj.Flunixin meglumine at the dose of 1.1mg/kg and Inj. Ringer's lactate at the dose of10 ml/kg was given intravenously. The animal was clinically improved immediately after therapy. The oral administration of calcium, Liver tonic, and multivitamin supplements was given for 3 weeks. Complete recovery was reported after ten days of therapy.

Discussion

Lactation tetany occurs in mares, which had low ionized calcium concentration as calcium was excessively utilised for milk production in high producers. animal that graze on lush pasturelands with large number of succulent fibres tend to be in increased lactation as result of which loss of significant amount of minerals especially calcium as stated by Rach et all.,1972. It may also be noted on animal fed on imbalanced diet in terms of quantity of feed and all elements for lactation(Bradford vets/ pet care articles/ retrieval as on 18th sept 2023).

It is common with 10 days after foaling this is because of increased mobilisation of calcium for skeletal development at last trimester of pregnancy, also increased calcium supplement before foaling reduces mares ability of mobilization of calcium by change in the level of parathyroid hormone (Tsvilikhovskyi et al., 2014).the urgent need of calcium is not met out by the interaction of parathormone and vitamin D3 or very slow to be met out.

Calcium is a regulatory ion crucial for various cellular activities such as coagulation, neuromuscular excitability, enzyme activity, etc. Around 99% of calcium was found as an inorganic matrix in the bone, and the remaining 1% was found in extracellular fluids.

In acute hypocalcaemia, skeletal muscle tremors with decreased smooth muscle contraction result in bradycardia, dysphagia and colic (Toribio, 2004). Also, he stated that most of the mares with calcium deficiency presented with various clinical signs including ataxia, tetany, muscle fasciculation-trismus due to spasmodic contraction of masticatory muscles, tachypnoea, rapid violent respiration with dilated nostrils, colic, hyperhidrosis, and hyperexcitement. Because of tetany, animal will exhibit the signs as incoordination, stiff gaits. Hypersensitivity to sound is less at rest rather than in exercise.

Therapeutic management of Lactation tetany should be done with administration of 300 to 500 ml Inj. 25% calcium boro gluconate intravenous infusion for the adult equine which weighs 500 kilograms (Radostits O, 2006). Vitamin D at a low dose may be beneficial to the mare, which also results in hypervitaminosis D. In addition to the calcium, the protein (albumin) and magnesium levels should be evaluated, to make the availability of ionized calcium (Toribio et al 2011).

A recently foaled mare and her foal are represented in Figure 1. This animal was in agony and unwillin

Figures 3 and 4 demonstrate the animal's regular gait after receiving the medicine. Figures 3 and 4 demonstrate the anim

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