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Popular Article

Post-Partum Hemoglobinuria (PPH) in Bovine

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Introduction

Post-partum hemoglobinuria (PPH) is commonly known as “Lahu mutna” or “Rakth mutna” in field condition. PPH is a metabolic disease of high yielding cows and buffaloes, usually occurs within 30 days of calving. Commonly seen in adult dairy cattle during their third to sixth lactation, caused due to deficiency of phosphorous in diet and is characterized by intravascular hemolysis, hemoglobinemia, hemoglobinuria and anemia.

Etiology

Deficiency of phosphorous in the diet due to soil deficient in phosphorous, drought condition reduces phosphorous contents in the forage and hay, kadbi and straw are naturally deficient in the phosphorous.

Impaired absorption of phosphorous from gut due to wide Ca:P ratio, vitamin D deficiency and gastrointestinal disease may contribute to occurrence of hypophosphatemia.

Increase requirement of phosphorous for development of foetus during advance pregnancy. Heavy drainage of phosphorus through milk, particularly in high milk yielding animals, leads to hypophosphataemia.



Post-parturient hemoglobinuria tends to occur during the winter months, especially when preceded by a dry growing season. Feeding cruciferous plants like rape, kale turnip cause deficiency of phosphorous.

Symptoms

Red, dark red or coffee colour urine depending upon the duration and severity of illness is often the premonitory clinical sign before anemia. As the anemia develops, mucous membranes become pale and icteric. Tachycardia, rapid and shallow breathing, depression, inappetence or normal appetite and decreased milk production are observed. Elevated temperature in early stage of the disease is a variable sign. Temperature usually normal but sometime may be elevated or subnormal. Laboured breathing and juglar pulsation can be observed during the terminal stage of disease. Light to dark coffee coloured urine is characteristics features of PPH. Sometimes abortion may occur in pregnant animal.

Diagnosis

By history: Diagnosis is made on the basis of history of exclusive feeding of dry roughage to advanced pregnant or recently calved high yielding animals.

By symptoms: By characteristic clinical signs viz. coffee coloured urine, pale mucous membrane, straining while defecation with normal body temperature.

Lesion: Anaemia, jaundice, enlargement of liver and spleen and coffee coloured urine in urinary bladder.

Clinical pathology:

Haematology: Low Hb, PCV and TEC values

Biochemistry: Low serum inorganic phosphorous values

Urinalysis: Urine positive for haemoglobin

Treatment

A. Specific treatment:

Sodium acid phosphate (inj. Urimin) @ 50ml IV on first day and 25ml for next 2-3 days is highly effective.

Inj. Tonicin/ Tonophospon @ 30ml IV.

Inj. Ascorbic acid @ 15-20mg/kg IV daily for 2-4 days.

B. Supportive Treatment:

Inj. Dextrose 20% 500-1000ml IV for 3-4 days



Inj. Liver extract with B-complex @ 5ml IM daily for 5-7 days

Inj. Feritas @ 5ml IM daily for 5-7 days

Blood transfuse in severe cases.

Give mineral mixture @ 25-50gm daily orally.

Control

Regularly give mineral mixture containing phosphorus according to the requirement for maintenance and production. Protect the recently calved or advanced pregnant animal from cold stress.

