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ARABIC SUMMARY	

SUMMARY

The present study involved clinical and laboratory investigations of 140 female buffaloes , their ages varied from 5-8 years from late pregnancy until 15-30 days after parturition .

First: Animal and clinical examination :

These animals belonged to different villages (Doronka, Reefa, El-Lakadma, El-Baliza , Awlad Ibrahim , El-Zawia) in Assiut Governorate and these animals were divided according to clinical signs and blood serum phosphorus level into 3 groups.

Group I : Animals proved to be healthy by both clinical examination and laboratory methods of examination and kept as control group, 50 female buffaloes belonged to this group.

Group II : 60 animals represented this group suffered from haemoglobinuria as a result of hypophosphatemia from 9th month of pregnancy until 15 days of parturition , 2 samples

were taken before treatment and 2 samples 10 days after treatment. This group divided into 3 groups according to type of treatment .

Group A : Treated with dibasic sodium phosphate .

Group B : Treated with Tonophos .

Group C : Treated with Tonophos and Vitamin C .

Group III : This group consists of 30 female buffaloes suffered from subclinical hypophosphatemia (pica & off food) after measured level of blood serum phosphorus .

Second : Samples and parameters were measured :

1- Blood sample with anticoagulant for complete blood picture (RBCs count - WBCs count – Hb concentration – PCV- MCV – MCH – MCHC). Blood film stain with Gimsa to differential leukocytic count .

2- Blood samples without anticoagulant to obtain serum for estimation of macroelements as phosphorus , calcium and magnesium , microelements as copper and iron in addition to measured LDH , urea and creatinine .

Third : Statistical analysis :

Statistical analysis of resulting first , third and second group of animals with their 3 groups of treatment to know effect

of hypophosphatemia on each parameter with special reference to effect of different drugs on hemoglobinuria .

II - Clinical hypophosphatemia (hemoglobinuria) :

1 - Clinical signs :

Hemoglobinuria the most important sign , sharp decrease in milk production , decreased to depraved appetite , anemia represented in pale mucous membrane then became icteric , increased in respiratory and heart rate with normal , subnormal to slightly increased body temperature. The clinical signs disappeared within 5-8 days in group A , 3-5 days in group B and maximum 3 days in group C of treatment .

2 - Hematological picture :

High significant decreased in RBC count and Hb before treatment and after treatment high significant increased in the same parameters with groups B , C of treatment , group A recorded significant increase .

High significant increase was recorded in WBCs count and neutrophiles before treatment . After treatment recorded high significant decreased in all groups of treatment.

PCV showed high significant decreased before treatment, after treatment recorded significant increased with group A, B , while high significant increased with group C.

MCV showed high significant increased in clinical hemoglobinuria before treatment . After treatment recorded significant decreased in group A, high significant decreased in group B and non significant changed in group C of treatment.

The present study revealed high significant increased in MCH before treatment then became significant increase after treatment with group C and non significant changed in group A,B .

MCHC and lymphocytes recorded high significant decreased before treatment then high significant increased after treatment with group B, C, non significant changed with group A .

3 - Serum analysis :

High significant decreased in levels of phosphorus , calcium and copper in clinical hypophosphatemic buffaloes before treatment, after treatment the levels rise to high significant increased in all groups of treatment on inverse of magnesium which recorded high significant increased before treatment not changed after treatment.

High significant increased in levels of iron and LDH before treatment , declined to high significant decreased after treatment with all groups of treatment.

High significant increased in blood serum urea in clinical hypophosphatemia before treatment . After treatment recorded significant decreased with group B , high significant decreased with group C .

Creatinine levels showed high significant increased before treatment. After treatment declined to high significant decreased in group B and C .

II - Subclinical hypophosphatemia :

1-Clinical signs :

Pica : ate foreign bodies , fecal matter with licking wall , Dullness , off food , Pale mucous membrane with watery discharge , constipation. Subclinical hypophosphatemia respond to treatment after 2 days with Tonophos, in the 4th days the clinical signs disappear completely .

2- Hematological picture :

High significant decreased in RBCs count , Hb , PCV, MCV , MCH and MCHC were recorded in subclinical hypophosphatemia and non significant changes in WBCs count

3- Serum analysis :

The present study showed that high significant decreased in blood serum levels of phosphorus , calcium , significant

decreased in blood serum copper and high significant decreased in blood serum iron . Non significant change were recorded in blood serum Mg , LDH, urea and creatinine .

The present investigation finally declared that important of phosphorus as one of the most important parameter during pregnancy especially last half stage for building the bone and lactation period especially early stage of it as a result of formation of milk. Phosphorus is main parameter in cell wall of RBCs and deficiency of it cause damage of RBCs and hemoglobinuria .

It was cleared from the previous that direct effect of some parameters due to hypophosphatemia as calcium and magnesium & indirect effect due to damage of RBCs and occur hemoglobinuria represented in iron , LDH , urea and creatinine.

The present study cleared highly effect of Tonophos and vitamin C in treatment of clinical hypophosphatemia .