

## UPWARD FIXATION OF THE PATELLA IN BUFFALOES: THE SERUM CALCIUM, INORGANIC PHOSPHORUS AND MAGNESIUM LEVELS

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## SUMMARY

The serum calcium, inorganic phosphorus, magnesium, calcium/phosphorus and calcium/magnesium ratios had been determined in 18 pregnant buffaloes affected with upward fixation of the patella syndrome and 10 normal pregnant buffaloes. A significant decrease in serum calcium and inorganic phosphorus and insignificant decrease in serum magnesium in buffaloes affected with upward fixation of the patella syndrome are reported.

## INTRODUCTION

In Egypt, upward fixation of the patella presents one of the most common surgical conditions in buffaloes. The most detailed description of clinical signs and treatment of the syndrome in buffaloes is published by Daneleus and Smed-Berg (1957) and Morcos and Zaki (1968).

Despite numerous studies that have been conducted to elucidate the aetiology of the condition, it seems to be still debated and uncertain. However, comprehensive reviews on the causes of the condition are available. Among the factors which might predispose to the condition, nutritional deficiency (Vaughan, 1960); hereditary (Gadgil *et al.*, 1972); climatic condition (Muller, 1969; Tyagi, *et al.*, 1972); neuromuscular disorders (Bhatia *et al.*, 1962); articular and ligamentous defects (Saleh *et al.*, 1975; El-Keley, 1977 and Shabaan, 1977).

The main purpose of this communication is to determine the serum calcium, inorganic phosphorus and magnesium levels of buffaloes affected with the syndrome since these three elements are of particular pertinence to locomotor function.

## MATERIALS AND METHODS

18 female buffaloes, aged 2-10 years, affected by the syndrome of upward fixation of the patella, were delivered to the faculty surgery clinic. Case histories revealed also that they were private buffaloes and their ration consisted mainly of barseem, darawa, cotton seed cake and tibn. They were pregnant between the 3rd and 7th month of gestation.

Another 10 normal female buffaloes from the military buffalo's dairy farm were used as a control. They were at mid-pregnancy state and they were subjected to accurate feeding programme. They had no previous history of such patella syndrome.

Blood was collected from the jugular vein of the buffaloes for serum biochemical analysis. The clear serum obtained was used for calcium, inorganic phosphorus and magnesium determination. The methods used were those of Gitelman (1967) using auto-analyser (SMA system) for calcium, Kraml's (1966) using SMA system for inorganic phosphorus and Denis (1922) for magnesium. The calcium/phosphorus and calcium/magnesium ratios were also calculated. The data were statistically analysed according to Snedecor (1959).