



ISSN (E): 2277- 7695
ISSN (P): 2349-8242
NAAS Rating 2017: 5.03
TPI 2017; 6(7): 341-342
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www.thepharmajournal.com
Received: 08-05-2017
Accepted: 09-06-2017

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Therapeutic management of obstructive urolithiasis in a Cow: A case report

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Abstract

A case of obstructive urolithiasis in Cow was presented to Teaching Veterinary Clinical Complex, College of Veterinary Science, Hyderabad and it is successfully treated.

Keywords: Uroliths, Cow, Ammonium chloride, Cystone

1. Introduction

Urinary calculus is described as mineral deposits in the urinary tract. If severe enough, these deposits can block the flow of urine, especially in cattle and sheep. Prolonged blockage can cause a rupture of the urinary bladder or urethra. This releases urine into the surrounding tissue, producing a condition referred to as “water belly.” Urinary calculi formation usually results from a combination of physiologic, nutritional and management factors. It is mainly attributed to excessive or imbalanced intake of minerals [6, 7]. Obstructive urolithiasis means the formation of calculi in the urinary tract with subsequent urinary blockage by uroliths [7]. It is a common and frustrating problem in small and largeruminants for owners and veterinarians. It appears to equally both sexes, but urinary blockage is an important problem only in males because of the anatomical conformation of their urinary tract [6]. In cattle, urethral obstruction typically occurs at the level of the sigmoid flexure. Mortality rate of obstructive urolithiasis in suffering animals due to rupture of the urethra or urinary bladder is very high [3]. The present paper described a typical case of obstructive urolithiasis in cattle and its medical management.

Case History and Clinical Observation

A Five year old Cow was presented to the Teaching Veterinary Clinical Complex, C. V. Sc, Rajendra Nagar, with a complaint of not passing urine and discomfort since one day. Animal showed uneasiness and abdominal pain manifested by straining, kicking at the belly, twitching of the penis and frequently attempting to urinate.

The animal showed urination by dribbling, elevated body temperature, increased heart rate and respiration rate. On per rectal examination urinary bladder was found to be distended. On clinical examination, animal was found to be dehydrated with abdominal distension. The case was tentatively diagnosed to be of obstructive urolithiasis and it was decided to perform medical treatment.

Treatment and Discussion

Routine observation of cattle is necessary to detect the earlier signs of disease. If the disease is detected early, salvage by processing may be the most cost effective method of handling water belly. If processing is not feasible, then it may be of value to use urinary tract relaxants that aid in keeping the urethra open and allow the passage of the mineral deposits. Acidification of the urine with ammonium chloride will help dissolve the phosphate stones that occur in feedlot cattle.

Urethral catheterization was performed to remove the urine from distended urinary bladder (Figure 1). Ammonium chloride was given @ 100 grams per day for 7 days. Along with Ammonium chloride Cystone Tablets 5 per day for 7 days were given.

Various treatment modalities, both medical and surgical for the management of urolithiasis have been developed in almost all the species [1, 4]. In ruminants, obstructive urolithiasis can be successfully treated if recognized early in the clinical course [2, 5, 8]. In mild cases, the animals can be treated by using tranquilizers and antispasmodics [3], litholytic drugs like cystone.

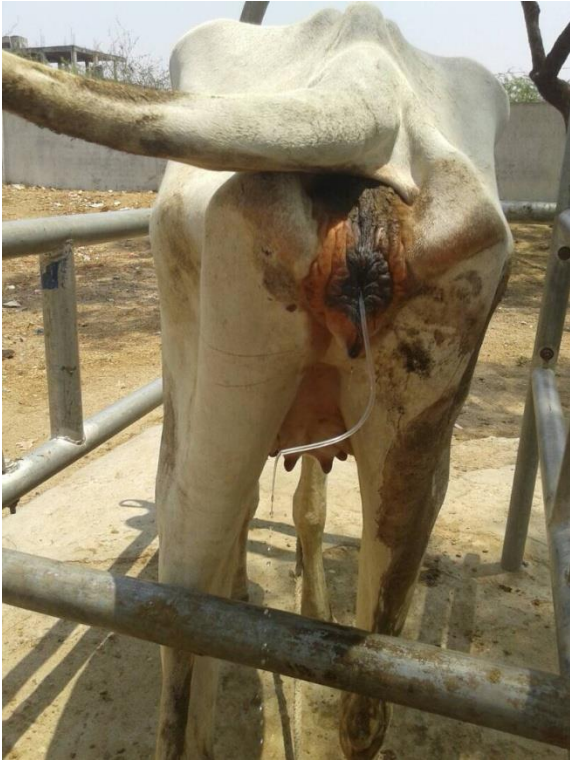


Fig 1: Photograph showing the removal of urine through urinary catheter in Cow.

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