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Prevalence of Indigestion in Buffaloes in and around Pantnagar Region of Uttarakhand, India

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A B S T R A C T

The present study was conducted in the Department of Veterinary Medicine, Teaching Veterinary Clinical Complex and Instructional Dairy Farm (IDF), C.V.A.Sc., GBPUA&T, Pantnagar, U.S. Nagar (Uttarakhand). A total of 608 buffaloes presented for the treatment at TVCC of the college and IDF of the university were screened for indigestion and included in the prevalence study. Out of 608 bubaline cases screened, 169 (27.80%) were found to be suffering from gastro-intestinal disorders while number of buffaloes suffering from indigestion were 63 (10.36%) of the total number of cases screened. Of these maximum prevalence was recorded for simple indigestion 34 (53.97%) followed by acid indigestion 16 (25.40%) and alkaline indigestion 13 (20.63%).

Introduction

Buffalo, a triple purpose animal, provides milk, meat and mechanical power to mankind. Due to its highly nutritious milk, leaner meat and best draught power for wet environments buffalo offers immense potential for the improvement of livelihood. Buffalo can efficiently convert low quality feed stuffs like straws and agro-industrial waste into human food, improve soil structure through bio-fertilizer and a financial asset which can be sold when needs arise. Although, buffalo is the flagship of all agricultural revolutions; green, white and red but unfortunately has been neglected in the past (Pasha and Hayat, 2012).

Rumen disorders are of a greater clinical interest as they affect large number of animals and incur great losses in both production and cost of treatment of the affected ruminants (Ratib, 2001). The most common ruminal disorders such as tympany, indigestion and impaction are characterized by poor appetite, altered pH, reduced rumen motility and decreased microbial counts (Radostits *et al.*, 2006). Sudden change in the feed is the most common cause of indigestion in ruminants. Other factors such as feeding spoiled and

moulded feeds, use of antibiotics especially via oral route, sudden changes in climatic conditions also cause indigestion (Radostits *et al.,* 2006). Due to abrupt changes in feed, the ruminal microflora is unable to adapt resulting in indigestion. As rumen microflora plays an important role in ruminant digestion (Yokoyama and Johnson, 1998), ruminal dysfunction leads to reduced rumen protozoal and bacterial count makes animal susceptible to various metabolic diseases and digestive disorders like simple indigestion, acidic indigestion, alkaline indigestion or post parturient indigestion. Mild simple indigestion is self-limiting in nature and the pH of rumen liquor tends towards mild acidosis or mild alkalosis. Reduced appetite is one the early clinical signs seen in case of indigestion (Radostits *et al.,* 2006) while subsequent prominent symptoms include anorexia, depression, reduced or complete cessation of rumination and eructation, decreased reticulo-ruminal movements and significant reduction in bacterial and protozoal counts (Irmak *et al.,* 1998). Indigestion also leads to hepatic disturbances (Padmaja and Rao, 2012), increase occurrences of leucocytosis (Stocker *et al.,* 1999) and decrease milk yield in affected animals (Singh *et al.,* 1996). The ultimate result of these clinical conditions is production and economic losses to the farmers. With the climate change and global warming ruminants are more likely to suffer from ruminal disorders as the fluctuation in temperature and humidity exerts great effects on animal physiology, performance and production as well as the ruminal bacterial diversity; which altered significantly in response to raised temperature (Tajima *et al.,* 2007).

Materials and Methods

The present study was conducted in the Department of Veterinary Medicine, Teaching Veterinary Clinical Complex and Instructional Dairy Farm (IDF), C.V.A.Sc., GBPUA&T, Pantnagar, U.S. Nagar (Uttarakhand). A total of 608 buffaloes presented for the treatment at TVCC of the college and IDF of the university were screened for indigestion and included in the prevalence study. All the buffaloes were put through preliminary screening for the presence of gastro-intestinal disorders. It consisted of history taking, clinical manifestations, recording of temperature, pulse and respiratory rate. Buffaloes found to have manifestations simulating the indigestion like in appetance or anorexia, slow or suspended rumination, constipation and diarrhoea, palpation of left paralumbar fossa showing doughy condition, signs of dehydration, sunken eyes, rough hair, fissured muzzle and sudden drop in milk yield were included in the epidemiological study. After preliminary screening of buffaloes for indigestion, prevalence of different types of indigestion viz. simple indigestion, acid indigestion and alkaline indigestion were recorded.

Results and Discussion

Out of 608 buffalo patients 169 i.e. 27.80% of the cases were found to be suffering from gastro-intestinal disorders while number of buffaloes suffering from indigestion were 63, which is 10.36% of the total number of cases screened, as shown in Table 1.

The prevalence for digestive disorders was found to be lower than that found by Pallab *et al.,* (2012) and Badruzzaman *et al.,* (2015), who reported prevalence of digestive disorders to be 47.05% and 45.14% in cattle respectively.

During this study out of 63 buffaloes suffering from indigestion, simple indigestion was found to be the most common form of indigestion with 34 buffaloes (53.97%) followed by acid indigestion in 23.40% of the cases and alkaline indigestion with 20.63% of the total cases, as shown in Table 2 and Fig.1.

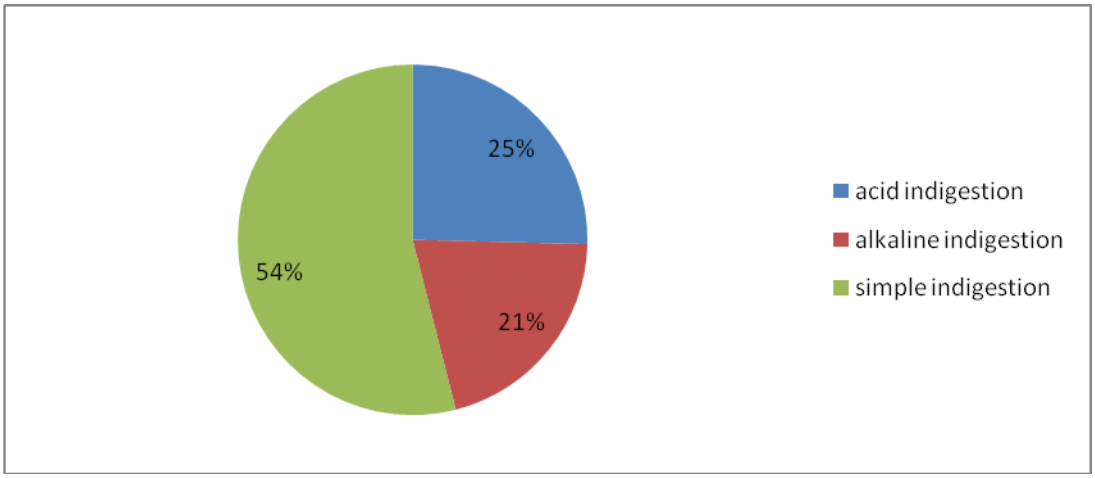
Table.1 Prevalence of gastro-intestinal disorders and indigestion in buffaloes

Total number of buffaloes patients observed	Number of buffaloes suffering from gastro-intestinal disorders	Number of buffaloes suffering from indigestion
608	169(27.80%)	63(10.36%)

Table.2 Prevalence of indigestion in buffaloes

Type of indigestion	Number of buffalo patients
Simple indigestion	34(53.97%)
Acid indigestion	16(25.40%)
Alkaline indigestion	13(20.63%)
Total	**63(100%)**

Fig.1 Prevalence of indigestion in buffaloes



The results were in similar trend to those reported by Philip and Al-Badrani (2008) and Shah *et al.,* (2013), who have reported that simple indigestion was most common followed by acid indigestion and alkaline indigestion in cattle and sheep respectively.

In conclusion, rumen disorders are of a greater clinical interest as they affect large number of animals and incur great losses in both production and cost of treatment of the affected ruminants. A total of 608 bubaline cases were recorded at Veterinary Teaching Hospital (VTH) Pantnagar and Instructional Dairy Farm (IDF), Nagla. Out of 608 bubaline cases screened, 169 (27.80%) were found to be suffering from gastro-intestinal disorders while number of buffaloes suffering from indigestion were 63 (10.36%) of the total number of cases screened. Of these maximum prevalence was recorded for simple indigestion 34 (53.97%) followed by acid indigestion 16 (25.40%) and alkaline indigestion 13 (20.63%).

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