



## SHORT COMMUNICATION

### Incidence of Bovine Gastrointestinal Obstruction in a Teaching Veterinary Hospital of Tamilnadu, India

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#### ARTICLE INFO

Received: October 30, 2012  
Revised: November 15, 2012  
Accepted: December 20, 2012

#### Key words:

Buffaloes  
Bovine  
Incidence  
Stomach and intestinal  
obstructions

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#### ABSTRACT

A retrospective study on the incidence of gastrointestinal obstructive disorders was carried out on 72 bovine admitted for to the Teaching Veterinary Hospital at Namakkal, Tamilnadu. The incidence was divided into two category viz. stomach obstruction (rumen, reticulum, omasum and abomasum) and intestinal obstruction and expressed as percentage. The percentage of incidence was higher in Jersey, female cattle than other breeds, male cattle and buffaloes. The percentage of stomach obstruction was more in non pregnant animals whereas the percentage was equal among pregnant and non pregnant animals in intestinal obstruction. The incidence of stomach as well as intestinal obstruction was higher in adult animals which were above 5 years of age, whereas in heifers the incidence of stomach obstruction was more in animals below 2 years of age. However, intestinal obstruction was more in animas above 2 years of age. The season has no significant effect on the incidence of gastrointestinal obstructive disorders.

**Cite This Article as:** Dharmaceelan S, N Rajendran, K Nanjappan, M Subramanian and GA Balasubramaniam, 2012. Incidence of bovine gastrointestinal obstruction in a Teaching Veterinary Hospital of Tamilnadu, India. *Inter J Vet Sci*, 1(3): 112-114. www.ijvets.com

#### INTRODUCTION

Surgical diseases of digestive tract in ruminant are numerous and constitute a major clinical problem. Disorders of forestomach and intestine in adult cattle can result from a variety of causes including those that are dietary, inflammatory, and / or mechanical (Fubini and Ducharme, 2004). In majority of the surgical maladies of the gastrointestinal tract like ruminal tympany, ruminal impaction, diaphragmatic hernia, traumatic reticulitis, abomasal impaction, intussusception, caecal dilatation etc. a multifactorial etiology constitute the most common cause for surgical gastrointestinal disorders in dairy cattle (Makhdoomi *et al.*, 1995). Neel and Edwards (1968) reported forestomach disorders in 72.15 % of 52 cases in ruminants. Braun (1989) investigated abdominal disorders in 277 heifers and cows and reported a major incidence in abdominal disorder is traumatic reticuloperitonitis. Constable *et al.* (1997) reported an incidence of intussusception in 336 cattle. This present study was undertaken to record the incidence of gastrointestinal

obstruction in bovine in a Teaching Veterinary Hospital of Tamilnadu, India.

#### MATERIALS AND METHODS

The study was conducted on clinical cases admitted to the large animal surgery unit, Veterinary College and Research Institute Teaching Veterinary hospital, Namakkal, Tamilnadu during the period from March 2005 to August 2007. Out of all the animals 72 animals were confirmed for gastrointestinal obstruction. The incidence was divided into two category viz. stomach obstruction (rumen, reticulum, omasum and abomasum) and intestinal obstruction. The details of the animals were collected by a questionnaire in all the 72 selected cases. The incidences of gastrointestinal obstruction in cattle and buffaloes, breed, sex and pregnancy status were recorded as a percentage. The age wise incidence was recorded in 2 categories as < 5 years and > 5 years in adult animals and in heifers as 0 to 2 years and 2 to 4 years by dentition and was expressed in terms of percentage. The seasonal

incidence was recorded as summer (March to June), monsoon (July to October) and winter (November to February) and expressed as a percentage.

## RESULTS AND DISCUSSION

In 72 animals selected for this study, the incidence of stomach obstruction observed was 45.83 % (33 animals) and intestinal obstruction was 54.16 % (39 animals).

Among the 33 animals confirmed for stomach obstruction 78.78 % were cattle (26 animals) and 21.21 % were buffaloes (7 animals). Out of 39 animals confirmed for intestinal obstruction 92.30 % were cattle (36 animals) and 7.69 % were buffaloes (3 animals). Anderson *et al.* (1993) recorded a higher incidence of stomach and intestinal disorder in cattle than buffaloes. The higher percentage of stomach and intestinal obstruction in cattle in the present study could be due to the higher population of cattle than buffaloes in around Namakkal.

In 33 animals 3.03 % were males (1 animal) and 96.96 % were females (32 animals). In intestinal obstruction out of 39 animals 10.25 % were males (4 animals) and 89.74 % were females (35 animals). The incidence was recorded in females more than males. Ashcroft (1983) reported a higher incidence of abomasal disorder in females than males. The higher incidence observed could be due to the prevalence of female population than males in and around Namakkal district due to increase in the number of small dairy farms secondary to poultry and transport industry besides reduction in draught animal populations. Unproportionate weaning of young ones and disposal of male calves could be another factor for the involvement of more number of female populations.

The age wise distribution revealed that out of 33 stomach obstruction animals 81.81 % (27 animals) were calved (adult), of which 37.03 % were (10 animals) below 5 years of age and 62.92 % (17 animals) were above 5 years of age and 11.11 % (6 animals) were heifers. In intestinal obstruction 87.17 % were (34 animals) adults, of which 47.06 % (16 animals) were below 5 years of age and 52.94 % (18 animals) were above 5 years of age and 12.82 % (5 animals) were heifers. The incidence of stomach as well as intestinal obstruction was higher in adult animals above 5 years of age, whereas in heifers the incidence of stomach obstruction was more in animals below 2 years of age and intestinal obstruction was more in animals above 2 years of age. Dixit *et al.* (1975) reported a higher incidence of intussusception in young calves aged between 1-2 years. The stomach and intestinal obstruction were mostly recorded in adult animals and the higher percentage of incidence in stomach obstruction could be attributed to a combination of lapses in good management, inadequate roughage, grain overload, eating of plastic bags, papers and placenta and grazing habits (Roth and King, 1991) and the higher incidence in intestinal obstruction in adults could be due to intramural masses, impacted feed materials, abscessation, peritonitis, intussusception, volvulus and torsion (Makhdoomi *et al.* 1995).

Breed incidence revealed, in 26 white cattle of stomach obstruction 65.38 percent (17 animals) were Jersey cross, 23.08 percent (6 animals) were Holstein

Friesian cross, 3.84 percent (1 animal) were Kangeyam, 3.84 percent (1 animal) were Sindhi cross and 3.84 percent (1 animal) were Non-descript. Among the 7 buffaloes 57.14 percent (4 animals) were Non-descript and 42.86 percent (3 animals) were graded Murrah.

In 36 cattle of intestinal obstruction 50.0 % (18 animals) were Jersey cross, 33.33 % (13 animals) were Holstein Friesian cross, 11.11 % (4 animals) were Kangeyam and 2.78 % (1 animal) were Sindhi cross. All the 3 buffaloes were Non-descript. Shinde (1996) and Sharma (1997) were also observed a higher incidence of stomach and intestinal obstruction in Jersey cross breed than other breeds, whereas Roth and King (1991) and Wittek *et al.* (2005) recorded a higher percentage of incidence in Holstein Friesian. The higher incidence in Jersey cattle in the present study could be attributed to the more prevalence of Jersey animal population in and around Namakkal district.

In the incidence of pregnancy out of 32 females in stomach obstruction, 31.25 % (10 animals) were pregnant and 68.75 % (22 animals) were non pregnant. Among 10 pregnant animals 90.0 % (9 animals) were pregnant above 5 months and 10 % (1 animal) were below 5 months. Out of 35 female animals with intestinal obstruction 48.57 % (17 animals) were pregnant and 51.43 % (18 animals) were non pregnant. The percentage of stomach obstruction was more in non pregnant animals whereas the percentage was equal among pregnant and non pregnant animals in intestinal obstruction. Sharma *et al.* (2003) reported a higher incidence of intestinal obstruction in pregnant animals. The increased incidence of stomach obstruction in non pregnant animals in the present study might be explained by poor quality roughage and excess level of concentrate feeding as well as increased abdominal space than pregnant animals.

The incidence of stomach obstruction during summer, monsoon, and winter were 36.37, 33.33 and 30.30 %, respectively which indicated that there was no seasonal influence. The incidences of intestinal obstruction in three seasons were 33.33, 43.58 and 23.07, respectively which revealed a moderate higher incidence in monsoon season. Seasonal influence on the incidence cannot be pointed out as primary role to play on the occurrence, (Mathison *et al.*, 1981), though environment was reported not to have any effect on occurrence of abomasal impaction. Sharma *et al.* (2003) reported that all 22 cases of intestinal obstruction were encountered only during the winter season (November to February). However the present study emphasized the higher incidences had occurred in monsoon season which could be due to the plenty of availability of lush green fodder. Seasonal availability of quality fodder could also have contributed to the seasonal difference in occurrence of gastrointestinal obstruction.

To conclude, the incidence of gastrointestinal obstruction was higher in adult Jersey cross cattle and season has no influence on incidence.

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