

# Research Summaries 3

## Rumenotomy and Rumenostomy in Cattle: A Retrospective Study of Twenty-five Cases (1999-2005)

A. Niehaus<sup>1</sup>, DVM, MS; D.E. Anderson<sup>2</sup>, DVM, MS, DACVS

<sup>1</sup>College of Veterinary Medicine, The Ohio State University, Columbus, OH 43235

<sup>2</sup>Agricultural Practices, College of Veterinary Medicine, Kansas State University, Manhattan, KS 66502

### Introduction

Few studies report long term information on how cattle perform following rumen surgery. The purpose of this study was to gather information from medical records of cattle having rumenotomy or rumenostomy to determine how these cattle functioned following surgery. The objective of the study was to determine if there were any preoperative factors (clinical signs, radiographic findings, laboratory values, etc.) that were correlated with outcome.

### Materials and Methods

The medical records of twenty-five cases of cattle undergoing rumenotomy or rumenostomy were reviewed. History, signalment, physical examination findings, and results of diagnostic tests, procedures, and surgical details were recorded. A client questionnaire was created to obtain follow-up information on all animals that were discharged from the hospital. Clients were asked to rank their satisfaction on a scale of 1 to 5, where 5 indicated complete satisfaction and 1 indicated complete dissatisfaction.

### Results

Twenty-five cattle met the inclusion criterion for this study, of which 24 (96 %) were female. Rumenotomy (RT) was performed on 76% (19/25) of the cattle and rumenostomy (RS) was performed on 24% (6/25). Eighteen dairy cows (17 RT and one RS) and seven beef cows (two RT and five RS) were included in the study. The age at the time of surgery was a mean of  $4.2 \pm 2.0$  years for the RT animals and a mean of  $0.9 \pm 1.0$  year for RS cattle. Hardware disease was diagnosed in 12 of 19 (63%) RT cases; hardware disease was not diagnosed in any of the RS animals. Other diagnoses were bloat (nRT=3, nRS=3), other foreign body (nRT=4), choke (nRS=1), omasal impaction (nRS=1), and rumen acidosis (nRS=1).

Concurrent diseases were recorded for 64% (16/25) of the cattle. Forestomach radiographs revealed foreign bodies in the reticulum or rumen in eight cattle. Three cattle had gas pockets associated with the reticular foreign body: one is still in the herd, one died, and one was culled from the herd. Medical therapy was instituted in all cases including antibiotics (oxytetracycline n=15, penicillin n=11, ceftiofur n=3, florfenicol n=1, and enrofloxacin n=1) and anti-inflammatory drugs (flunixin meglumine n=15, dexamethasone n=1, prednisolone n=1). Surgical infection occurred in one case followed by dehiscence of the incision. Four animals (one RT and three RS) died within 60 days following the surgical procedure. Long term follow-up (>60 days) information was obtained on 21/25 (84%) of the animals. Time to follow-up varied from four months to six years. Seven animals (five RT and two RS) were still present and productive in the herd. Eight animals (seven RT and one RS) had been culled from the original herd by the time of follow-up. Six animals (three RT and three RS) were dead. Client questionnaires revealed that 10 (77%) cattle had a normal appetite following return home, nine maintained normal body condition, seven cattle returned to breeding and bred back in a timely fashion. Client satisfaction was good with five RT and three RS clients responding with a 5, and 2 RT clients responding with a 4.

### Significance

The objective of this study was to determine if there were factors that affected the outcome of rumen surgeries. The greatest factor affecting outcome of rumen surgery was the primary disease and the preoperative condition of the animal. The animals that underwent RS typically were more severely affected than those that underwent RT surgery. The RS animals had a markedly greater death rate than the RT animals. However with this small number of cases, it is difficult to draw conclusions regarding specific factors that affected the outcome of the rumen surgeries.