

# Veterinary Bioscience:

## Digestive System



### LECTURE 18

### DISEASES OF THE RUMINANT FORESTOMACH

#### LECTURER

##### **ASSOCIATE PROFESSOR JENNY CHARLES**

As a veterinary graduate of the University of Sydney, Jenny Charles undertook specialist training in veterinary anatomic pathology at the University of Melbourne and the University of Guelph, and also worked in the United Kingdom on the clinical diagnosis and eradication of bovine spongiform encephalopathy. She is a Diplomate of the American College of Veterinary Pathologists and has been a member of the international WSAVA multi-disciplinary team responsible for refining diagnostic criteria for hepatobiliary disorders of dogs and cats. Jenny's research interests include disorders of the liver, pancreas and cardiovascular and reproductive systems of domestic animals, diseases of New World camelids, causes of wastage in the horse-racing industry, and applied aspects of clinical pathology.



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#### INTENDED LEARNING OUTCOMES

At the end of this lecture, you should be able to:

- describe the aetiopathogenesis of the common disorders of the ruminant forestomach
- explain the potential consequences of injury to a forestomach compartment that disturbs its motility, reduces the mucosal absorptive surface area and/or increases mucosal permeability
- identify the characteristic gross and/or microscopic lesions that are used to reach a specific diagnosis.

#### KEY WORDS

bloat, traumatic reticuloperitonitis, hardware disease, vagus indigestion, rumenitis, reticulitis, omasitis, lactic acidosis

#### LECTURE OVERVIEW

Several diseases commonly afflict the forestomach compartments, particularly the rumen. Many lesions of the reticulum, rumen and/or omasum are subclinical but others can be responsible for significant morbidity and mortality through compromising feed digestion and gastrointestinal motility, disturbing hydration and/or

acid-base balance, or by extension of the disease process to secondarily involve other organs and body systems.

In this lecture, we will review the important disorders of the forestomach compartments (including diet-induced mucosal dystrophic changes, luminal foreign bodies, motility disturbances, traumatic injuries, inflammatory and infectious conditions, and common neoplasms). Knowledge of the normal structure and function of these compartments and of their anatomic relations to other structures will be applied to predict the potential consequences of injury. The causes and characteristic diagnostic features of the disorders will be outlined, together with the gross features of the forestomach compartments that should be evaluated during any necropsy examination of a ruminant.

## FURTHER READING

F.A. Uzal, B.L. Plattner and J.M. Hostetter. Alimentary system. In: Jubb, Kennedy and Palmer's Pathology of Domestic Animals. 6th ed., Volume 2. Ed. M. G. Maxie. Elsevier, St Louis, Missouri, USA (2016). pp. 1-257 (especially pp. 35-43)

H. B. Gelberg. Alimentary system. In: Pathologic Basis of Veterinary Disease. 6th edition. Ed. J. F. Zachary. Elsevier, St Louis, Missouri, USA (2017). pp. 324-411 (especially pp. 392-395)