Veterinary Bioscience: Digestive System

LECTURE 8
CLINICAL EXAMINATION OF THE DIGESTIVE SYSTEM

INTENDED LEARNING OUTCOMES

At the end of this semester, using the approach described in this lecture and expanded on through application in case study sessions, you should be able to:

- Take a thorough history to establish the likelihood of digestive system dysfunction in animals.
- Differentiate normal and abnormal digestive system function based on physical examination findings.
- Apply an understanding of the physiology of the digestive system to localise disease process.
- Describe some of the diagnostic aids that will enable further investigation of the digestive system.

INTRODUCTION

This lecture will introduce the principles of how a veterinarian can assess the digestive system in animals. Our animal patients cannot tell us what the problem is or where it hurts. Therefore, a thorough and systematic approach to the clinical examination is key. A holistic (whole animal/whole herd) approach should be taken, since many different factors and systems may be interrelated.

This lecture is not intended to provide a detailed overview of all elements of a thorough veterinary clinical examination for all domestic animal species. Instead, you will be introduced to the principles of a veterinary clinical examination that you will be able to apply as you study the content of this subject, especially as you work through the clinical scenarios presented in case study sessions. You will learn how to perform a detailed clinical examination of the major domestic animal species as you progress through the DVM course.

With experience, and as your knowledge expands, you will be able to improve your problem-solving approach to clinical cases by:

- Asking specific and relevant questions
- Developing refined problem lists
- Developing prioritised lists of differential diagnoses

SIGNALMENT

The signalment describes the characteristics of an animal or group of animals, including species, breed, sex, age and possibly colour. The various components of the signalment are important to recognise because certain diseases occur more commonly in some breeds, ages, sexes or colours compared with others.

This information will assist with developing a prioritised list of differential diagnoses.

HISTORY

Taking a good history is an essential part of the clinical investigation. There is evidence that experienced veterinarians can make an accurate diagnosis in >50% of cases based on history alone, depending on the body system affected. This is not to reduce the value of other aspects of the clinical investigation, but to highlight the importance of taking a good history. Ideally, when an animal is known to be presenting with an illness, longer consultations can be booked to allow the veterinarian time to be complete and not feel rushed.

Issues with the digestive system can present as an emergency – for example, gastric dilation-volvulus (GDV) in a dog or ruminal tympany ('bloat') in a cow. In those situations, triage and stabilisation will occur before history taking, and diagnostics are generally done to assist in prognostication rather than diagnosis. However, in less acute cases, taking a detailed history will save time in the long run.

The detailed history should be entered into the clinical records, to serve as an accurate reference.

A good history will include:

- Description and timeline of the primary presenting complaint
- Medical history
- Reproductive history
- Medical prophylaxis – vaccination status; deworming status
- Current medications
- Environment/husbandry practices
- Appetite
- Diet – especially important in cases with suspected disease of the digestive system
- Characterisation of urination/defecation
- Relate condition to any in-contact animals

EVALUATION OF THE ENVIRONMENT

For animals that are being evaluated in their normal surrounds, most commonly in the context of large animal call-outs, it is important not to rush into handling or physical examination of the animal before an assessment of the environment is made. This can include evaluation of:

- Bedding/substrate
- Feeding equipment
- Hygiene
- Ventilation

OBSERVATION OF THE ANIMAL PRIOR TO HANDLING

Once an animal is handled or restrained, they will often demonstrate different behaviours compared with when they were left alone. This might include a change in demeanour as they attempt to hide illness or injury or an increase in respiratory rate as they become stressed, sniff or pant. Some observations that can be made from a distance include the assessment of:

- Demeanour and behaviour
- Body condition
- Posture and gait
- Eating (or ruminating)
- Defaecation and urination
- Respiratory rate
- Comparison to in-contact animals

PHYSICAL EXAMINATION

The digestive system is always assessed during a routine clinical examination of any animal. This includes examining the mouth, the throat, and palpating the abdomen for any signs of pain, bloating, etc. A stethoscope can be used to auscultate over the abdomen to listen for sounds associated with intestinal motility (particularly in large animals). A knowledge of anatomy helps to identify structures that are being palpated or auscultated.

This lecture will not describe in detail the elements of a thorough physical examination for all domestic animal species. Instead, general principles will be introduced for consideration. It is important that animals are appropriately restrained during the physical examination. For companion animals this might be holding by the vet, owner or nurse, but for large animal species might require specific equipment, such as a suitable crush for cattle.

The physical examination should include:

- Mentation and demeanour
- Body condition score
- TPR (temperature, pulse, respiration)
- Auscultation – heart rate & rhythm, lung sounds, borborygmi
- Hydration status and perfusion – skin turgor, mucous membrane colour, capillary refill time
- Palpation – pulses, body surface, joint / limb swelling or pain, pitting oedema
- Oral examination
- Focussed on the abdomen:
    - Contour
    - Auscultation and percussion
    - Palpation and ballottement
- Rectal examination

ANCILLARY DIAGNOSTIC PROCEDURES

More detailed investigations may then be carried out if a problem with the digestive system is suspected. This can include endoscopy and other types of imaging such as radiography and ultrasound. Examination of the faeces can provide a lot of information but is often overperformed. Blood samples can also be useful to rule out non-GI disease, and if necessary, tissue samples (biopsies) can be obtained from different parts of the gastrointestinal tract.

- Blood tests (haematology and biochemistry)
- Urinalysis
- Faecal examination
- Peritoneal fluid analysis
- Endoscopy
- Radiography
- Ultrasound
- Advanced imaging techniques (CT, MRI)
- Exploratory laparotomy

SUMMARY

This lecture is not intended to be a comprehensive overview of the veterinary clinical examination. However, the principles presented here will become the foundation from which you will continue to develop your approach to clinical problem solving over the coming years. The focus should remain on the development of a refined problem list and a prioritised list of differential diagnoses.