Diseases of digestive system

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Lecturers link

Introduction
Illness and Disease

- Illness is the situation of being unhealthy or having poor health.
o It is caused by disease.
o The illness must be recognized first, then the disease causing the illness is determined.
- Disease can be defined as the "inability to perform physiologic functions at normal levels even
though nutrition and other environmental requirements are provided at adequate levels".
- The focal point of any investigation of animal disease is the making of a diagnosis, and the critical
part in making that decision is the clinical examination of the individual animal or group of animals.
- The diagnostic act is actually a process to categorize the animal's illness.

Making a Diagnosis

- The practice of clinical veterinary medicine consists of two major aspects:
o Making of a diagnosis
o Providing of treatment and control measures.
- The diagnosis must be as accurate as possible for treatment and control to be optimum value.
- A diagnosis is the identification of the disease affecting the animal.
o Complete diagnosis should include identification of three parts:
1. The clinical manifestation of that abnormality produced by the causative agent.
2. Abnormality of structure or function (the disease) produced by the causative agent
3. The specific cause of the illness.
- Generally, the experienced clinician uses more simple strategies for the diagnosis, and the novice
clinician uses more complex ones. For instance:
o The diagnosis can be made promptly and intuitively in the first few moments of viewing
the animal, e.g.,
o The behavior of a horse with abdominal pain
o The skin lesions of ecthyma in a sheep
o The same experience can occur while taking the history in which the description of
the clinical situation and signs are pathognomonic or highly suggestive of a

disease.

o Usually, as soon as the owner of the animal begins presenting the signs, the clinician
begins to draw up a short list (usually three or four) of diagnostic possibilities. The
clinician then begins to ask questions and conduct clinical examinations that test the
hypotheses.

Clinical Examination of the Individual Animal

• A clinical examination has three parts:

o History.

o Animal.

o Environment.

I. History Taking

• In veterinary medicine, history taking is often the most important of the three aspects of a clinical
examination.

• It must be accurate and purposeful.

• The clinician must know the right questions to ask; this knowledge comes with experience and
familiarity with disease.

• Collection of information that does not address a clinically relevant question is a waste of time.

• To avoid being misled, it is essential that the veterinarian assesses the accuracy of the history by
careful examination of what the owner relates about the animals.

• Owners seldom describe clinical signs in their correct time sequence, and part of the clinician's task
is to establish the chronology of events.

• Good communication skills are an essential component of successful history taking.

o The owner or attendant must be handled with diplomacy and tact.

o The use of nontechnical terms is usually essential, because livestock owners can be
confused by technical expressions.

o The veterinarian must be aware of the vernacular associated with particular breeds or uses

of animals and should be able to communicate in these terms.

o The clinician must try to separate owners' observations from their interpretations.

• The set outline for complete an appropriate history taking includes:

1. Animal Data (identification of the animal), including the details of the owner's address:

♣ This information is important for maintaining a successful practice.

♣ This data include the following:

o Owner's name and address (telephone number if it is possible).

o Species, type, and breed.

o Sex, age, name or number, and body weight (or body condition score).

o If necessary, a description including identifying marks of the animal.

2. Disease History:

♣ Present disease

o Details of the clinical abnormalities observed by the owner in the sequence in which they occurred.

o If more than one animal is affected, a typical case should be chosen.

o The behavior of animals before death and the period of time elapsing between the

first observable signs and death or recovery are important.

♣ Morbidity, Case Fatality, and Population Mortality Rates

o The morbidity rate is the percentage of animals that are clinically affected.

o The case fatality rate is the percentage of affected animals that die.

o The mortality rate is the percentage of all exposed animals that die of the disease.

♣ Prior treatment, including exact details of the preparations used and doses given.

♣ Prophylactic and control measures, for example: isolation of affected animal.

♣ Previous exposure, including the following questions:

o Is the affected animal has been introduced, and if so how long ago?

o If the affected animal has been in the group for some time, have there been recent

additions?

o Is the herd a closed herd or are animals introduced at frequent intervals?

♣ Transit, which is always a potential risk factor for several diseases.

♣ Previous diseases.

3. Management History:

♣ Nutrition.

♣ Breeding policy and practice (Reproductive management).

♣ Housing.

♣ Transport and general handling.

II. Examination of the Animal

• Clinical examination is a key component in any diagnostic process.

• The examination of an animal consists of

♣ General inspection (distant examination):

o Behavior, such as dull or excitation.

o Voice.

o Eating, including prehension, mastication, swallowing, rumination and eructation.

o Defecation and urination.

o Posture, such as arching of the back, dog-sitting.

o Gait, such as lameness.

o Body condition, such as emaciation.

o Body conformation, such as symmetry, shape, or size.

o Skin, such as abnormal sweating, diffuse lesions, or itching.

♣ Close physical examination of all body regions and systems.

o Techniques used in making a close physical examination include:

1. Palpation

♣ Direct palpation with fingers or indirect with a probe is aimed to determine the size, consistency, temperature, and sensitivity of a lesion or organ.

♣ Terms used to describe palpation findings include the following:

o Doughy: When the structure pits on pressure, as in edema.

o Firm: When the structure has the consistency of normal liver.

o Hard: When the consistency is bonelike

o Fluctuating: When the structure is soft, elastic, and undulates on pressure but does not retain the imprint of the fingers

o Tense: When the structure feels like a viscous distended with gas or fluid under some considerable pressure

o Emphysematous: When the structure is puffy and swollen and moves and crackles under pressure because of the presence of gas in the tissue.

2. Percussion

♣ In percussion, the body surface is struck to set deep parts in vibration and cause them to emit audible sounds.

♣ The sounds vary with the density of the parts set in vibration and may be classified as follows:

o Resonant: The sound emitted by organs containing air, e.g., normal lung.

o Tympanitic: A drumlike note emitted by an organ containing gas under pressure such as a tympanitic rumen or cecum

o Dull: The sound emitted by solid organs such as heart and liver

♣ Percussion can be performed with the fingers using one hand as a plexor and one as a pleximeter.

♣ In large animals a pleximeter hammer on a pleximeter disk is recommended for consistency.

3. Ballottement

♣ Ballottement is a technique used to detect floating viscera or masses in the abdominal cavity. For instance: Ballottement of a fetus.

♣ Using the extended fingers or the clenched fist the abdominal wall is palpated vigorously with a firm push to move the organ or mass away and then allow it to rebound on to the fingertips.

♣ Ballottement and auscultation of the flanks of cattle is also useful to detect fluid-splashing sounds.

♣ Their presence on the left side suggests carbohydrate engorgement and excessive quantities of fluid in the rumen or left-side displacement of the abomasum.

4. Auscultation

♣ Direct listening to the sounds produced by organ movement is performed by placing the ear to the body surface over the organ.

♣ Indirect auscultation by a stethoscope is the preferred technique.

♣ Auscultation is used routinely to assess heart, lung, and gastrointestinal sounds.

III. Examination of the Environment

• It is important because of the possible relationship between environmental factors and the incidence of disease.

• Environment can include:

♣ Outdoor environment, such as

o Nature of the pasture and soil type.

o Population density (overcrowding is a common predisposing factor of diseases).

o Feed and water supplies.

♣ Indoor environment, such as

o Hygiene measures.

o Ventilation and lighting.

o Flooring.

Introduction

Examination of the Population

• Examination of the herd or flock is important where there are outbreaks of a disease or a problem.

• The ultimate objective in the examination of a herd is to establish strategies for the treatment,

correction, and control of the disease problem at the herd level. This may involve

o strategies to increase the resistance of the animals, or

o strategies that change adverse factors in the herd environment.

• The methods for examination of the population include the following:

o Initial definition of the problem to be examined.

o Clinical examination of individual animals in the population.

o Analysis of records of performance and disease.

o Examinations of the environment.

o Laboratory examination of the animal and nutritional and environmental sampling.

o Necropsy examinations of dead or sacrificed animals.

o Descriptive and analytical epidemiologic examinations.

• Methods for correction of the problem include the following:

o Treatment of individual sick animals.

o Selective or strategic prophylactic medication of the impacted group (metaphylaxis).

o Immunoprophylaxis.

o Alterations to the nutrition, the environment, or the management of the herd or of selected

groups within it.

• Notes:

♣ Some diseases are well defined, they are easily recognized by clinical or postmortem
examination; thus, the herd examination would be limited to the initial examinations that
establish the diagnosis and the corrective strategies.

♣ Other diseases are less well defined; thus, all aspects of the examination methods may be
needed to determine the most appropriate method for control. Therefore, complete
epidemiologic investigation is important.

Veterinary Practice with different types of animals

♣ Food-producing animals Practice

• Veterinary practice with food-producing animals provides service primarily to the owners of the
meat-, milk-, as well as fiber-producing animals such as dairy and beef cattle, buffalo, sheep, and
goats, as well as deer.

• Such veterinary services include:

o Emergency service for a single animal was affected with one of the common diseases, or
several animals affected with an outbreak of a disease.

o Planned animal health and production management using the whole-farm approach.

• The objectives of food-producing-animal practice include:

o Maintain the efficiency of livestock production.

o Maintain the standards of animal welfare.

o Prevent zoonotic diseases and maintain food safety that ensures that meat and milk are free
of biological and chemical agents capable of causing disease in humans.

• Importance of the economics for food-producing-animals veterinary practice:

o The successful delivery of food-producing-animal practice will depend on the ability of the
veterinarian to provide those services that the producer needs and wants at a price that is
profitable to both the producer and veterinarian.

• The veterinarian must be knowledgeable and skillful in the:

o Traditional veterinary disciplines of medicine, reproduction, pharmacology,

and pathology.

o Principles of epidemiology.

o Applied nutrition and animal housing.

o Education and training of animal attendants.

o Analysis of production indices, including profit and loss.

♣ Equine Practice

• Veterinary service with equine practice can include

o Reproduction management.

o Intensive clinical care of the newborn foal.

o Treatment of medical and surgical diseases of valuable athletic and competitive horses.

♣ Companion-animal Practice

• Veterinary service for companion-animal medicine (small animals; dog and cats) has followed in
the footsteps of human medicine.

• There is no emphasis on the efficiency of production, epidemiology, and cost-effectiveness that
constantly faces the food-producing-animal practitioner.

• Because of the human–companion animal bond, owners are willing to pay for the costs associated
with extensive laboratory and sophisticated diagnostic tests as well as intensive and prolonged
veterinary care.

Prognosis and Therapeutic Decision Making

Prognosis

• Prognosis is the prediction about the future clinical course of a disease (i.e., the expected
development of a disease). In Greek, prognosis is "fore-knowing" or "foreseeing".

• The prognosis usually follows the diagnosis and is dependent on it.

• Owners of animals with a disease expect to receive a reasonably accurate prediction of the outcome
and the cost of treatment.

• The information required for a reasonably accurate prognosis includes the following:

o The expected morbidity and case fatality rates for the disease.

o The stage of the disease.

o Whether or not a specific treatment or surgical operation is available or possible.

o The cost of the treatment.

• Terms usually used for the prognosis are:

o Excellent: when the animal requires no treatment, but the owner has to be advised to
improve animal's management.

o Good: when the animal will recover and return to normal within hours, and may be without
treatment.

o Favorable: when the animal will have good response after the treatment.

o Unfavorable: when the animal will have little response to the treatment, and may require
long duration of treatment.

o Bad: when the animal will have no response after a treatment, and may die within days.

o Hopeless: when the animal may die now, it should be slaughtered or euthanized.

Therapeutic Decision Analysis

• Veterinarians must routinely make decisions that have economic consequences for the veterinarian
and for the client, particularly for those food-producing-animals.

• The process of selecting a management plan from a range of options involves a mental assessment
of the available options and their probable outcomes.

• Such a decision might be:

o Treatment.

o Vaccination.

o Slaughter.

o Perform a surgery (which surgical procedure?).

• Decision analysis involves identifying all available choices and the potential outcomes.