Introduction

Disease:

- It is a state of dysfunction (unable to perform physiological functions at normal level)
- Or any deviation from health condition
- Or It is consider a dynamic process which develops in the animal host as a result of interaction between causative agent (s) and the host.

Classification of diseases

I. According to infectiousness:

1-Infectious diseases: It is a group of diseases resulting from invasion of the animal body by infectious biological or pathogenic agents as bacteria, virus, yeast and fungi.

2- Non infectious diseases:

Is that disease resulting from environmental condition, as

- bad ventilation or faults in animal housing or
- mechanical, physical or chemical agents,
- metabolic disorder and nutritional deficiency.

Classification of infectious diseases

I. According to Etiology:

1. Viral, AHS, EI,EVR,EVA, Camel pox, CD, Rabies,CPV, FMD,LSD,RP,PPR, RVF
2. bacterial & fungal , Tetanus, Strangles, Glanders ,UL, Leptospirosis, Anthrax. ESD, CL and T.B
3. parasitic diseases,
   - Trematodes, Fascioliasis & paramphystoma,
   - Nematodes, Strongylosis, Gastrophillus& Habronemiasis,
   - Protozoa, Babesiosis, Theileriosis, Trypanosomiasis, & Toxoplasmosis.
4. Multifactorial, mixed infection due to more than one M.O as Mastitis

II. According to contagiousness or transmissibility to:

A-Contagious disease: diseases in which occur transmission of causative agent or its products from reservoirs to susceptible host by direct and indirect transmission.

. Reservoirs (infected animals or contaminated an inanimate objects)

. Directly as by direct contact or by droplet infection .

. Indirectly through an intermediate plant or animal host, vectors or inanimate materials.

Ex: foot & mouth disease, cattle plaque, brucellosis, epizootic lymphangitis, equine influenza, contagious skin necrosis, dermatophytosis, mange and orf

2-Non contagious disease : Infectious diseases in which occur transfer of infectious agent and its product from reservoir into susceptible host by indirect methods .

Biting Rabies

Wounds, Tetanus, BLD, Black disease Wounds

Insect born, Bluetongue, three day sickness, rift valley fever

III. According to Course of the disease to:

1-Peracute, very rapid in their course (few hours or days) as anthrax & most of clostridial diseases

2-Acute, have short course but more longer than peracute (few days-1-2 week) as . . colibacillosis, FMD , three day sickness & Strangles

3-Subacute, course is less than acute (few weeks)

4-Chronic, course is extended over a long period (months or years) due to slow growth of M.O inside the host body as T.B.

IV-According to pattern of occurrence

1- Sporadic disease : Diseases appear in individual cases & appear without regularity in a population unit due to that the infection exists in the population and only occasionally some animals exhibited signs of the disease,

2-Endemic or enzootic disease: A disease which occurs with predictable regularity in a population unit with minor fluctuation in its frequency pattern over the time . Ex. FMD, Fascioliasis, RVF.

3-Epidemic or epizootic disease: Group of the diseases that occur by an accidental level in the population & affecting many animals and rapidly spread.

An outbreak is a rough synonyms of epidemics.

4-Pandemic disease: It is a very large scale epidemic usually involving several countries over a wide geographic region at the same time.

Common terms used in Epidemiology

1-Exotic diseases:

The disease (s) which enter free area or country.

Source of disease producing agents, Living animal importation, animal by products, semen, embryo and biological material.

Controls of these diseases depend on eradication by slaughter of infected animals under hygienic measurement, vaccination by inactivated vaccine but not living attenuated one.

2-Notifiable diseases:

Is the group of diseases that when appear the owner or veterinarian must notify about it or immediately report animal & human health authority to establish all the precautions and measures

- To confirm the suspicious and
- to apply quarantine on infected locality and other control measures.

Such diseases are characterized by of rapid spread, high economic loss and of zoonotic importance.

Ex. Equine → AHS, EI,EE, horse pox and glanders.

Cattle viral diseases → FMD, MCF & RP

Cattle Bacterial diseases → Anthrax, TB & Brucellosis.

3-Zoonotic diseases:

The diseases which is transmitting from animals population to the human being through contact & handling of infected animals or contaminated materials in slaughter house & laboratory or through ingestion or inhalation of infected materials as brucellosis, T.B.

4-In apparent infection or cases:

Infection of susceptible animal without demonstrating any clinical signs.

Infection take the same way of the disease to produce signs with replication and shedding of causative agent which cause considerable problem in disease control.

Evidence of infection should be demonstrated by laboratory methods.

5-Latent infection:

Etiological agent is present but undetectable, and under predisposing and stress factors become detectable. Ex Black disease.

6-Carriers:

Animal which shedding M.O without demonstrating any clinical signs.

It may be classified according to the stage of shedding of the infective agents to :

1-Incubating or preclinical carrier (animals which discharge the microbe during incubation period Ex Rabies animal shedding virus 3-5 days before appearance of signs)

2-Convalescent carriers or Subclinical carrier (animals discharge the microbe during convalescent period. Ex FMD intermittent or continuous shedding of virus from nasopharynx.

7- Reservoirs:

It is the natural habitat of the infectious agent between outbreaks in which the infectious agent normal live and multiply and from which transmitted to susceptible host.

It may be (animal, plant, insect, soil or inanimate materials).

8- OIE:

Is the office international epizootic organization present in France which give all epidemiological information about infectious disease all over the world.

9- Incubation period:

Is the time interval from introduction of infectious agent (infection) to onset of clinical signs. It may be short or long according to the nature of the infectious agent.

10- Course:

Is the time interval from onset of clinical signs till end result of the disease.

11- Signs: The objective evidence of a disease which measured by the examiners.

12- Symptoms:

It include objective and subjective or any evidence that indicates the presence of the disease. It may be :

A-General symptoms as which present in several diseases as fever or loss of appetite.

B-Objective symptoms which are obvious to the senses of the eye observation as lameness.

C-Subjective symptoms which are confined to the patient as pain or colic.

D-Specific symptoms which are specific for certain disease as lock jaw in tetanus and absecessation of submaxillary lymph nodes in strangles.

13-Disease control:

Is aimed to reducing the frequency of a disease to a tolerable level.

14-Disease eradication:

Is the complete elimination of a disease agent from the environment.

15-Quarantine: period of time during which animal movement is restricted and animal tested & observed for evidence of the disease

Aim: to prevent interherd transmission of the disease

to prevent entrance of exotic and notifiable diseases

16-Diagnosis:

Means the studying the method of recognizing a disease using recent laboratory tests beside clinical examination of infected animals .

17-Prognosis:

- The prediction of the future of disease following its onset or
- The outcome of the disease or
- It is the end result of the disease.
- It may be namely favorable, unfavorable or bad