

Introduction

A necropsy, also called a post-mortem exam, is an examination of an animal after death. It is performed to obtain an accurate cause of death, as well as looking at each individual organ within the body. Careful examination and sampling of organs helps determine the cause of death, whether it is by disease or trauma.

It is said that "Necropsy is a message of wisdom from dead to living". Necropsy include systemic examination of dead animal, recording of pathological lesions, their interpretation to make diagnosis of disease.

Sometimes it is difficult to arrive any conclusion merely based on gross examination of dead animal. Then one should seek the help of laboratory examinations such as Histopathology, Microbiology, Immunology and Toxicology for confirmation.

General death :(systemic or somatic death) Its mean cessation of all activities and functions of body organs and system and loss of their regulation. The clinical signs of systemic death are:

- 1- Absence of pulse, heart beat and respirations.
- 2- Pupil becoming fixed and not reacting to light.
- 3- Absence of eye brightness
- 4- Absence of all reflexes

Local death : post mortem changes , certain histological changes normally occur after general death and should be differentiated from pathological lesions due to diseases.

Forensic Pathology

Forensic Pathology includes careful examination and recording of pathological lesions in case of Vetero-legal cases.

Syncope is a temporary loss of consciousness usually related to insufficient blood flow to the brain. It's also called fainting or "passing out." It most often occurs when blood pressure is too low (hypotension) and the heart doesn't pump enough oxygen to the brain. It can be benign or a symptom of an underlying medical condition.

Asphyxia or **asphyxiation** is a condition of deficient supply of oxygen to the body that arises from abnormal breathing. An example of asphyxia is

choking. Asphyxia causes generalized hypoxia, which affects primarily the tissues and organs. Asphyxia can cause coma or death.

Drowning is a type of suffocation induced by the submersion or immersion of the mouth and nose in a liquid.

Sudden death syndrome includes those cases found dead with no premonitory signs at last inspection, and those being treated and expected to recover that die unexpectedly.

Types of sudden death

- (1) Isolated cases of sudden death may occur as a result of a range of sporadic conditions that may be present at low levels in any population of animals.
- (2) Sudden deaths in multiple animals at the same time is of great concern and may indicate point exposure to a poison or toxin, or an outbreak of a severe infectious disease.

Clinical Signs and Diagnosis

Determining cause requires necropsy examination. Diseases and conditions to be considered include hypocalcaemia, clostridial diseases (enterotoxaemia, blackleg, malignant oedema), electrocution, asphyxiation, monensin poisoning, smothering, ruminal acidosis, chronic copper poisoning, pneumonia, and bloat.

Starvation

Fatal starvation is a rare cause of death in industrialized countries but this entity may become of major medicolegal importance if death results from deliberate withholding of food, especially from infants. In such cases, the task of the forensic pathologist and the medical examiner, respectively, is not only to clarify the cause of death but also to give an expert opinion on the degree and duration of starvation.

The main necropsy findings are:

- 1- an extreme emaciation with loss of body weight and organ weights. (The loss of about 35– 50% of body weight may cause death).
- 2- Absence of food in digestive system.
- 3- all organs except for the brain are reduced in weight.
- 4- Loss of weight is very rapid in the first place, but becomes slower after approx 3 months of starvation.
- 5- Loss of body weight mainly results from the loss of subcutaneous adipose tissue and adipose tissue surrounding internal organs.
- 6- atrophy of internal organs, and atrophy of muscles.

Death from cold

Hypothermia occurs when the core body temperature is 35 °C or less, approximately 2 °C below the normal body temperature. In clinical terms, hypothermia is classified according to severity as mild, moderate, and severe. Mild hypothermia is usually defined as 35–32 °C, moderate as 32–28 °C, and severe as <28 °C.

Necropsy findings

- 1- presence of frost erythema.
- 2- Hemorrhages into the synovial membrane.
- 3- bloody discoloration of synovial fluid of the knee.

death from effect of heat

- 1- cerebral edema
- 2- visceral petechial hemorrhages
- 3- subendocardial hemorrhages
- 4- hepatocyte necrosis.