

Acute heart failure

Sudden loss of consciousness, falling with or without convulsions severe pallor mucus membrane , death or complete recovery from the episodes.

Etiology

- 1- As a result cardiac tamponade in which pericardial sac suddenly fill with fluid.
- 2- Excessive tachycardia or ventricular fibrillation.
- 3- Sporadic cases when iv injection give too quickly (oxyteracycline).
- 4- Bradycardia may occur during i/v injection of calcium borogluconate for treatment of parturient paresis.
- 5- Complete cardiac asystole is most likely to occur during anesthesia.

Pathogenesis

- 1- In excessive tachycardia the diastolic period is so short that the filling of ventricles is impaired and cardiac output is grossly reduced.
- 2- In ventricular fibrillation no cardiac contraction occurs and no blood is ejected from the heart.
- 3- Bradycardia also leads to decreased cardiac output when the heart is slow beyond the critical point.
- 4- In all of these circumstances there is a fall in cardiac output and a severe degree of tissue anoxia.
- 5- In peracute cases the most sensitive organ, the brain, is affected first and the clinical signs are principally neurological. Pallor is also present in these cases because of the reduction in the arterial blood flow.
- 6- In less acute cases respiratory distress is more obvious because of pulmonary edema and although these can be classified as acute heart failure they are more accurately described as acute congestive heart failure.

Clinical finding

- 1- The acute syndrome may occur while the animal is at rest but commonly occur during the periods of excitement or activity.
- 2- The animal usually shows dyspnea , staggering and falling and death often follows within seconds or minutes of the first appearance of signs.
- 3- There is marked pallor of mucosa.
- 4- Although clonic convulsions may occur but it never severe and consist mainly of sporadic incoordinate movements of limbs.
- 5- Death usually is preceded by asphyxial gasps.
- 6- If there is time for physical examination, absence of palpable pulse and bradycardia, tachycardia and absence of heart sounds are observed.

Clinical pathology

In general there is insufficient time available in which to conduct laboratory tests before the animal dies.

Necropsy finding

In typical acute cases engorgement of the visceral veins may be present if the attack has lasted for few minutes but there may be no gross lesions characteristic for acute heart failure.

Differential diagnosis

Primary disease of nervous system but the acute heart failure characterized by excessive bradycardia, pallor mucosa, absence of pulse and the mildness of convulsions.

Treatment

1- Treatment of acute heart failure is not usually practicable in large animals because of short course of disease.

2- Deaths due to sudden cardiac arrest or ventricular fibrillation while under anesthesia can be avoided to limit extent in animals by direct cardiac massage or electrical stimulation but these techniques are generally restricted to the more sophisticated institutional surgical units.

3- intracardiac injection of very small doses of epinephrine are used but the likely to dangerous as much as good especially if ventricular fibrillation is present.