

Pericarditis

Pericarditis : is inflammation of pericardium that result in accumulation of fluid and /or exudates between the visceral and parietal pericardium.

Pericarditis in large animals can be caused by trauma from penetration of ingested foreign body.

Etiology

- A - Traumatic pericarditis due to penetration of pericardium or pericardial sac by ingested foreign bodies occur commonly only in cattle.
- B - Localization of blood borne infections occur sporadically in many diseases.
- C - Direct extension of infections from pleurisy or myocardium may also occur in all animals.
- D - In most cases of pericarditis in horses no causative agent is isolated.

The bacterial causes of pericarditis includes :-

a- In cattle

Pasturellosis, black disease, bovine encephalitis, *Haemophilus somnus*, tuberculosis, *Pseudomonas aregenosa* , *mycoplasma spp* and *Actinobacillus suis*.

b- In horses

Streptococcus Spp., Tuberculosis, *Actinobacillus equi*, in association with EHV-1 infection.

c- In sheep and goats

Pasturellosis, *Staphylococcus aureus* and *Mycoplasma spp.*

Pathogenesis

- 1- In the early stage , inflammation of pericardium is accompanied by hyperemia and deposition of fibrinous exudates which produce a friction sound, when the pericardium and epicardium rub together during cardiac movement as a fusion develops, the inflamed surfaces as separated and the friction sound is replaced by muffling of the heart sound and the accumulation of fluid compresses the atria and right ventricle preventing their complete filling led to congestive heart failure.
- 2- In the recovery stage of non suppurative pericarditis the fluid is re absorbed and adhesions form between the pericardium and epicardium to cause an adhesive pericarditis but the adhesion are usually not sufficiently strong to impair cardiac movements.
- 3- In suppurative pericarditis the adhesion which form become organized and may cause complete attachment of the pericardium to epicardium or this may occurs only in patches to leave some loci are filled with serous fluid. In either cases restriction of cardiac movement will probably occurs and followed by congestive heart failure.

Clinical finding

In early stage there is pain , avoidance of movement, abduction of the elbows, arching of the back and shallow abdominal respiration . Pain is evidenced on percussion and firm palpation on cardiac area of the chest wall and the animal lie down carefully.

A pericardial friction sound is detectable on auscultation of cardiac area. The temperature is elevated to 39.5 – 41 C (103 – 106 F) and the pulse rate is increased. Associated signs of pleurisy, pneumonia may be present.

The second stage of infusion is manifested by muffling of the heart sounds, decrease palpability of the apex beat and an increase in the area of cardiac dullness.

If gas is present in pericardial sac each cardiac cycle may be accompanied by splashing sounds. Signs of CHF become evident . Fever is present, heart rate is markedly increased and toxemia in 1-3 weeks. The animals that survive develop the chronic pericarditis in this stage additional signs of myocarditis may appear. The heart sounds become less muffled and fluid sound disappear together or persist in restricted area. Complete recovery is not common.

Clinical pathology

- ☑ Marked leukocytosis and shift to the left (in TRP).
- ☑ Aspiration of fluid from pericardial sac and submitted to bacterial examination.

Differential diagnosis

- ☒ Pleuritis .
- ☒ Vulvular diseases .
- ☒ Mediastinal abscess .
- ☒ Hydropericardium .
- ☒ Heart failure .
- ☒ Endocarditis .

Treatment

- 1- Antibiotics according to culture and sensitivity or broad spectrum antibiotic or combination that give broad spectrum effect such as penicillin & streptomycin.
- 2- Pericardiocentesis and drainage should be conducted to relieve the fluid pressure in the pericardial sac.