

Pericarditis

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- **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 body occur commonly only in cattle.

B - Localization of blood borne infection occurs sporadically in many disease.

C - Direct extension of infection 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 equili*, 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 **reabsorbed** and adhesions form between the **pericardium** and **epicardium** to cause an adhesive **pericarditis** but the adhesions are usually not sufficiently strong to impair cardiac movements.

3- In suppurative pericarditis the adhesions which form become organized and may **cause complete attachment** of the pericardium to epicardium or this may occur only in patches to leave some loci are filled with serous fluid.

In either case restriction of cardiac movement will probably occur and be 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 - 41C and the pulse rate is increased.

Associated signs of pleurisy, pneumonia may be present.

The second stage of infusioin 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**.

Sings 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 sings 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

Antibiotics according to culture and sensitivity or broad spectrum antibiotic or combination that give broad spectrum effect such as penicillin & streptomycin.

Pericardiocentesis and drainage should be conducted to relieve the fluid pressure in the pericardial sac.