



**Lecture title:** HYDROTHORAX and HEMOTHORAX

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**Summary:**

Accumulation of edematous transudate or whole blood in the pleural cavities and manifested by respiratory embarrassment caused by collapse of the ventral parts of the lungs

**ETIOLOGY**

**PATHOGENESIS**

- 1) Accumulation of fluid in the pleural cavities causes compression atelectasis of the ventral portions of the lungs, and the degree of atelectasis governs the severity of the resulting dyspnea
- 2) Compression of the atria by fluid may cause an increase in venous pressure in the great veins, decreased cardiac return, and reduced cardiac output
- 3) Extensive hemorrhage into the pleural space can cause hemorrhagic shock

**CLINICAL FINDINGS**

1. sudden death or with signs of acute, severe hemorrhagic shock
2. Hemorrhage of lesser severity causes increased heart and respiratory rates, pale mucous membranes, and exercise intolerance
3. Hydrothorax develops more slowly, and often there is an absence of systemic signs
4. dyspnea, which usually develops gradually, and an absence of breath sounds, accompanied by dullness on percussion over the lower parts of the chest
5. In thin animals, the intercostal spaces might be observed to bulge
6. If sufficient fluid is present, it causes compression of the atria and engorgement of the jugular veins and increased amplitude of the jugular pulse
7. Ultrasonographic examination of the thorax: Large quantities of blood in the pleural cavity have a characteristic swirling, turbulent appearance

**CLINICAL PATHOLOGY**



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## NECROPSY FINDINGS

## TREATMENT

## PNEUMOTHORAX

It refers to the presence of air (or other gas) in the pleural cavity in sufficient quantity causes collapse of the lung and impaired respiratory gas exchange, with consequent respiratory distress.

## ETIOLOGY

## PATHOGENESIS

1. Entry of air into the pleural cavity results in collapse of the lung
2. There can be partial or complete collapse of the lung
3. Alveolar hypoventilation, hypoxemia, hypercapnia, cyanosis, dyspnea, anxiety, and hyperresonance on percussion of the affected thorax.
4. Tension pneumothorax can also lead to a direct decrease in venous return to the heart by compression and collapse of the vena cava
5. The degree of lung collapse varies with the amount of air that enters the cavity
6. Small amounts are absorbed promptly, but large amounts compromise tidal volume, minute volume, and gas exchange and can result in asphyxiation

## CLINICAL FINDINGS

- 1) Affected animals are anxious, tachypneic and in variable degrees of respiratory distress
- 2) There is an acute onset of inspiratory dyspnea, which may terminate fatally within a few minutes if the pneumothorax is bilateral and severe
- 3) If the collapse occurs in only one pleural sac, the ribcage on the affected side collapses and shows decreased movement
- 4) Bulging of the chest wall on the unaffected side
- 5) On auscultation of the thorax, the breath sounds are markedly decreased in intensity and commonly absent
- 6) Definitive diagnosis is based on demonstration of pneumothorax by radiographic or ultrasonographic examination



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## Complications

- a) Respiratory distress and death
- b) septic pleuritis secondary to contamination of the pleural space, either secondary to trauma or from ruptured infected lung

## TREATMENT