

Atlas of anatomical pathology of the porcine respiratory system

TECHNICAL SPECIFICATIONS

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This atlas of anatomical pathology allows the identification of the various lesions of the porcine respiratory system. The images that are included focus on the morphological bases of the porcine respiratory pathologies and their relationship with their causes. Each of the pictures, carefully chosen by the author because of their excellent visual and descriptive quality, are accompanied by a short text, with gross and microscopic descriptions that are essential to the understanding of the disease and the establishment of a diagnosis.

Aimed at veterinary surgeons, students, teachers and other professionals in the veterinary sector.

Atlas of anatomical pathology of the porcine respiratory system

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Thoracic cavity and pleura

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001

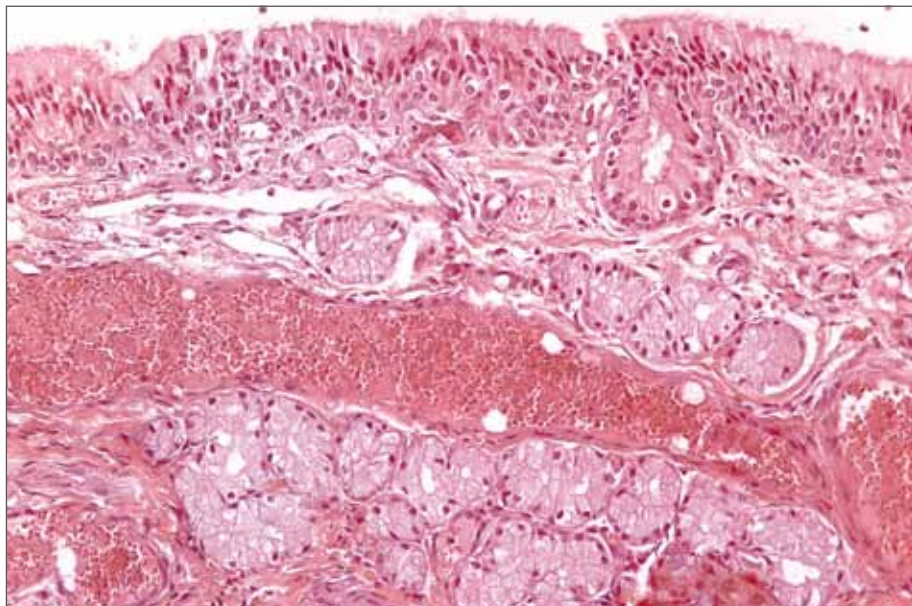


001

Nasal congestion.

Diffuse reddening of a piglet's nasal mucosa. This is a non-specific response to different types of aggressions.

002



002

Nasal congestion.

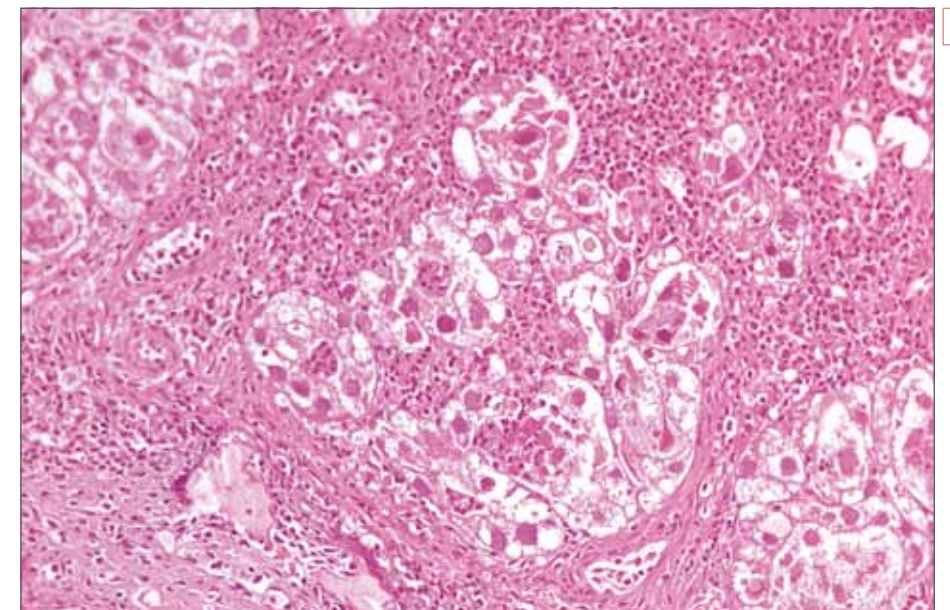
Blood vessels of the lamina propria, dilated and full of blood. Hematoxylin-eosin (HE) staining.

The macroscopic lesions of inclusion body rhinitis are non-specific. The associated mucopurulent rhinitis is usually caused by bacterial complications. The histopathological diagnostic is based on the finding of characteristic inclusion bodies.

003



004



003

Inclusion body rhinitis.

Sagittal cut of a piglet's nasal cavity. Focal deposit on the nasal mucosa, which corresponds to a mucopurulent exudate, a non-specific lesion associated to porcine cytomegalovirus infection.

004

Inclusion body rhinitis.

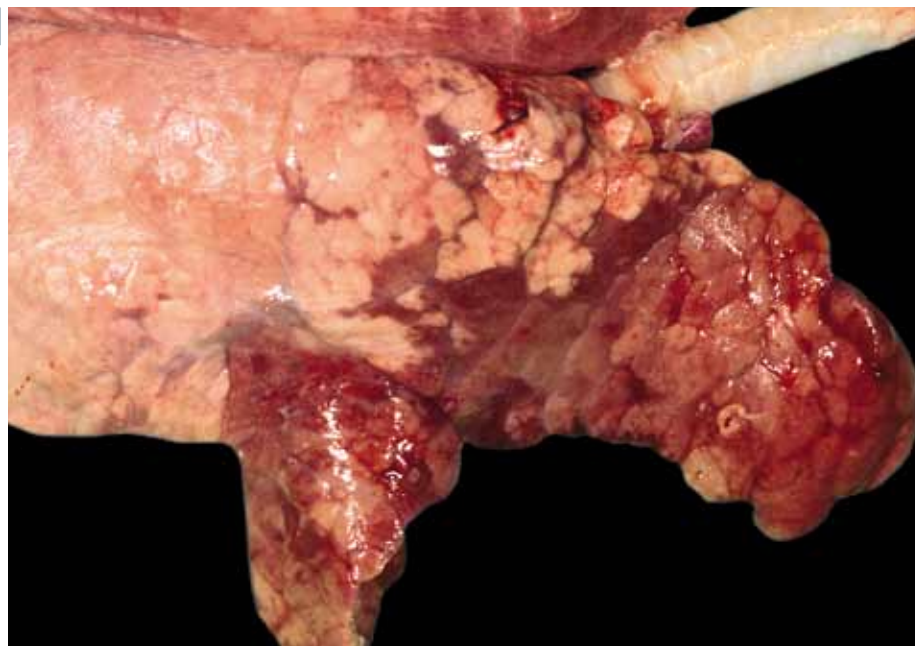
Enlarged nasal gland epithelial cells, with large intranuclear inclusion bodies. Porcine cytomegalovirus infection. HE.

Inflammations

This classification of the different types of pneumonia considers the morphology and distribution of the lesions as well as the nature of the exudate.

Purulent bronchopneumonia

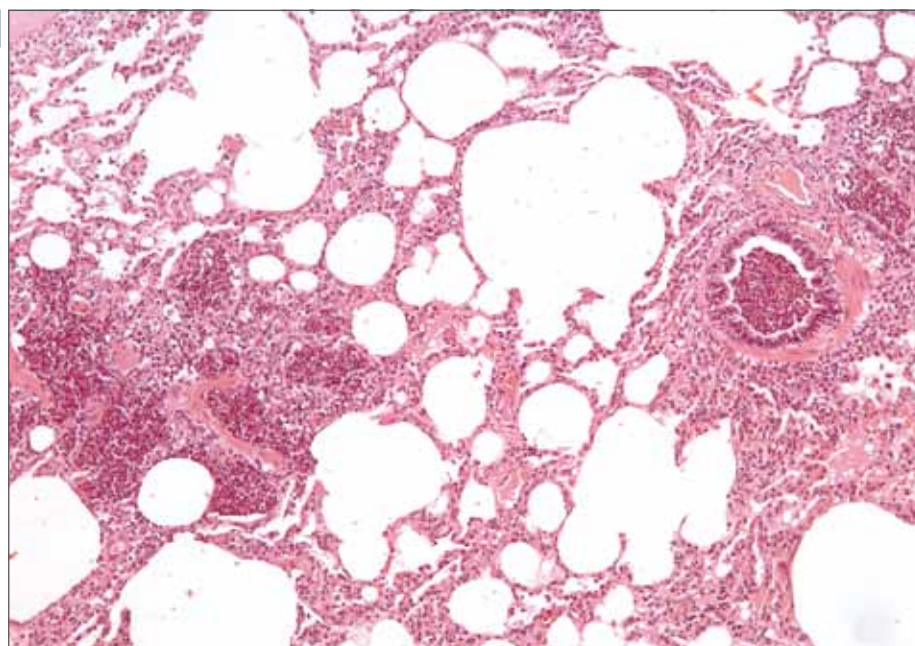
042



042

Purulent bronchopneumonia. Dark to greyish red cranioventral consolidation with a clear limit between the healthy lung and the affected area. The colour of the surface of the affected area is not uniform due to the phases of the pneumonia.

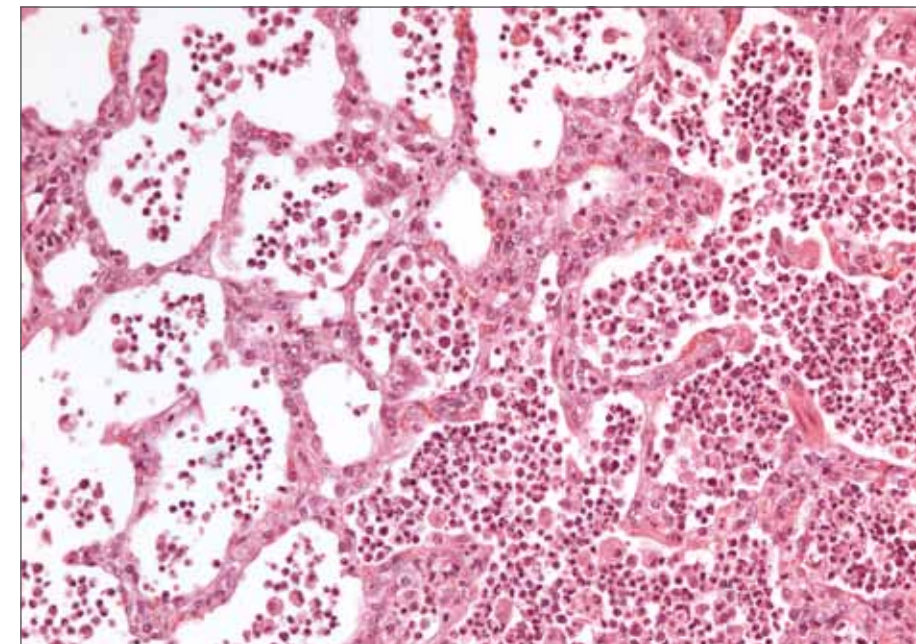
043



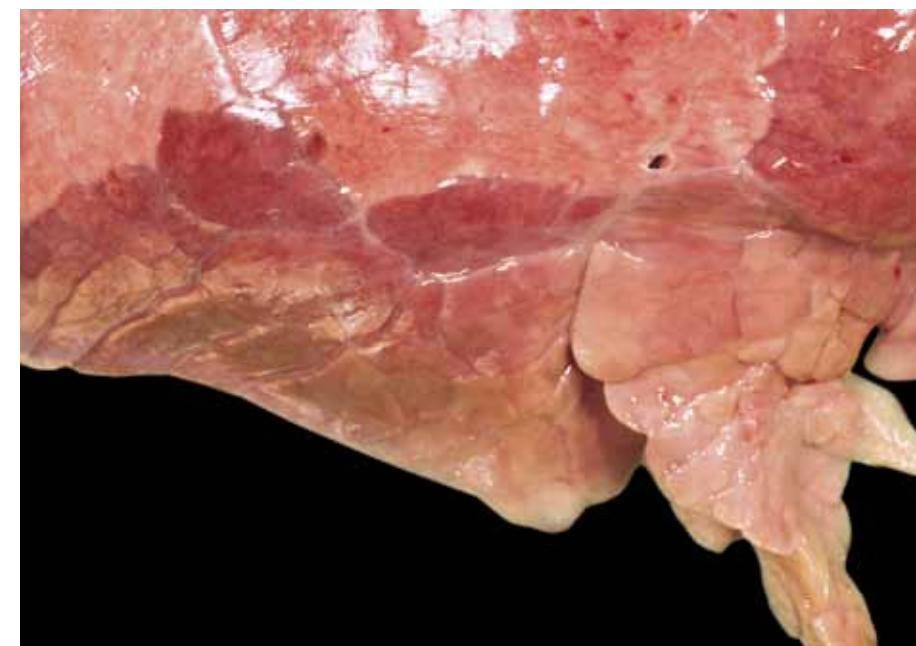
043

Purulent bronchopneumonia. Leukocytic exudate in the lumen of a bronchiole and in various isolated groups of alveoli, indicative of the aerial spread of the disease. HE.

044



045



044 Purulent bronchopneumonia.

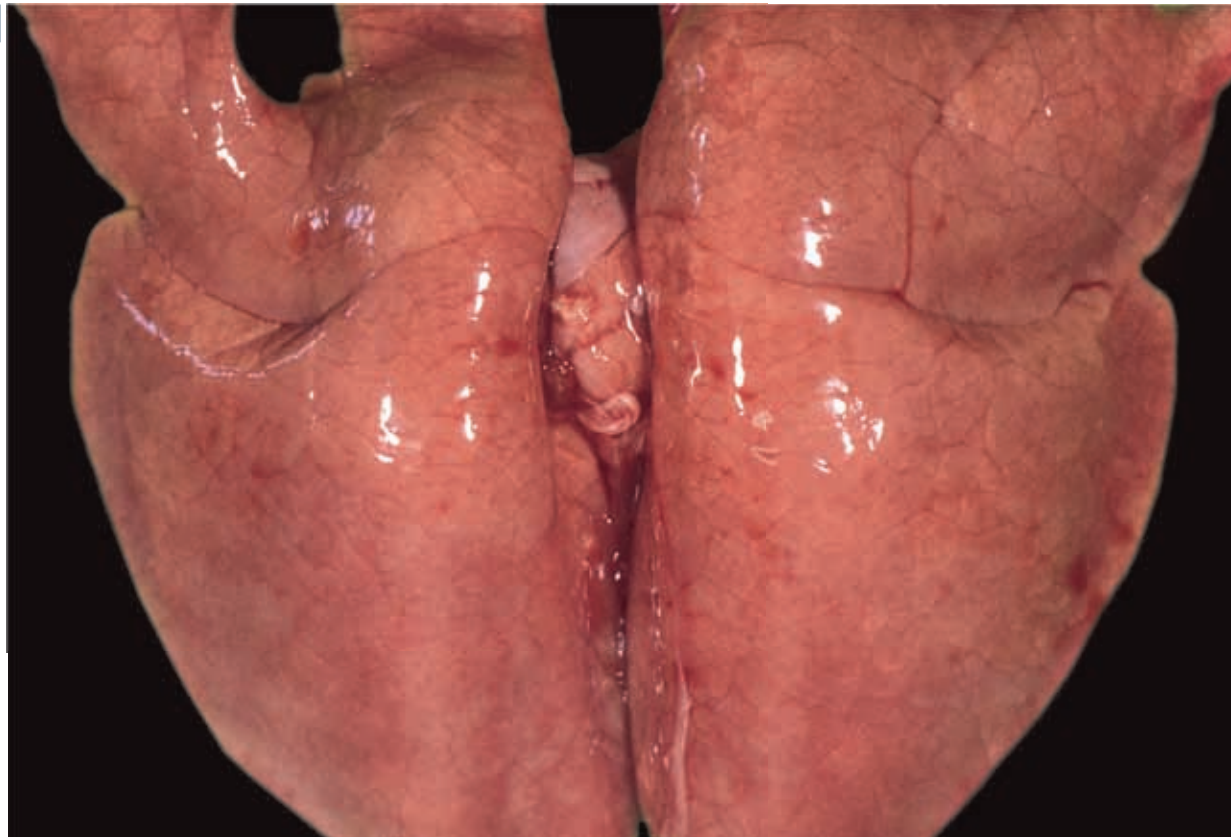
Leukocytic exudate towards the alveoli with a predominance of neutrophils. HE.

045 Purulent bronchopneumonia.

Cranioventral consolidation, clearly separate from the healthy parenchyma. The colour of the consolidated lung varies from dark red to greyish-red according to the chronology of the lesions.

Interstitial pneumonia

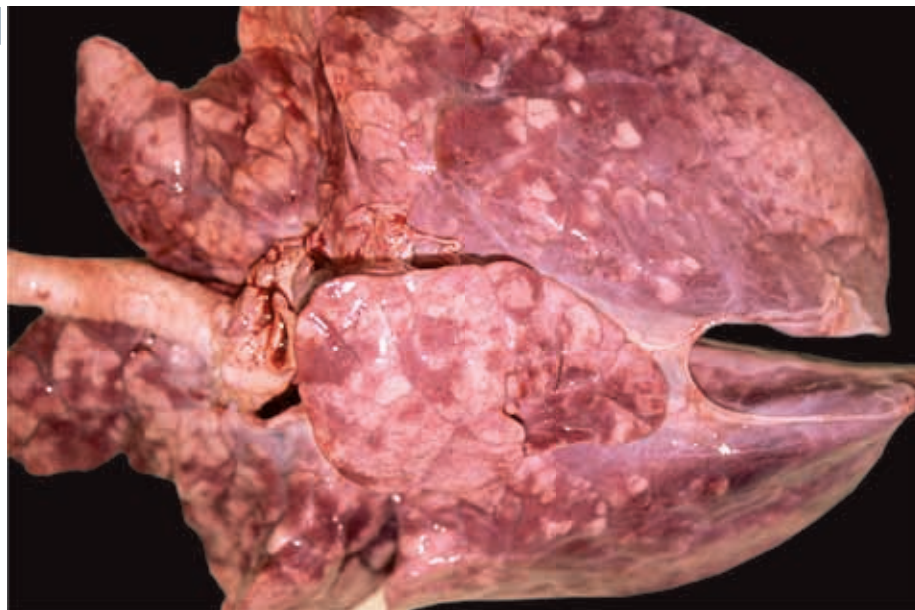
092



092 Interstitial pneumonia.

Enlarged lungs due to lack of pulmonary collapse. Small brownish red consolidation foci distributed on the surface of the whole organ.

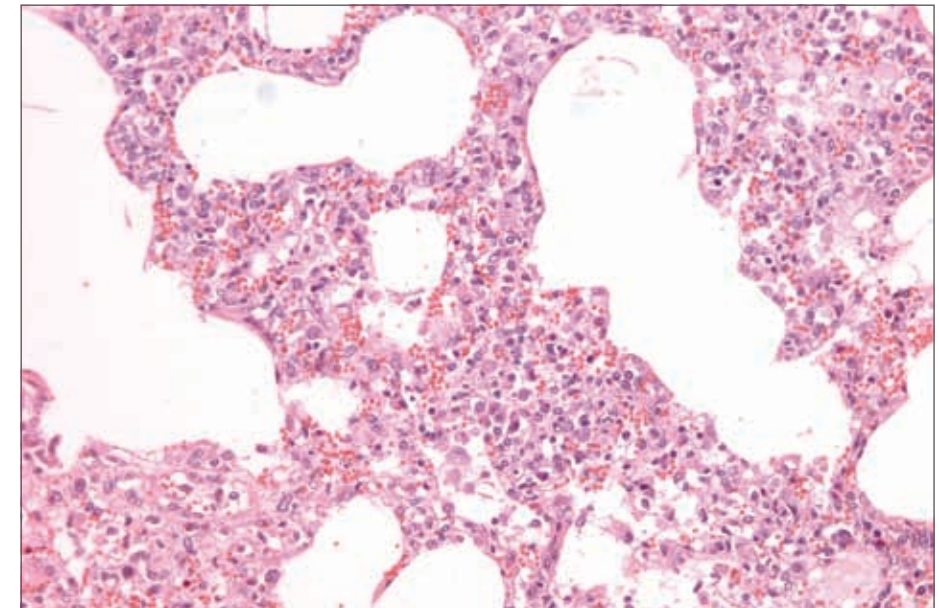
093



093

Interstitial pneumonia. Consolidation in the form of locally confluent reddish areas scattered throughout both lungs. Concomitant infection by porcine reproductive and respiratory syndrome virus (PRRS) and porcine circovirus (PCV).

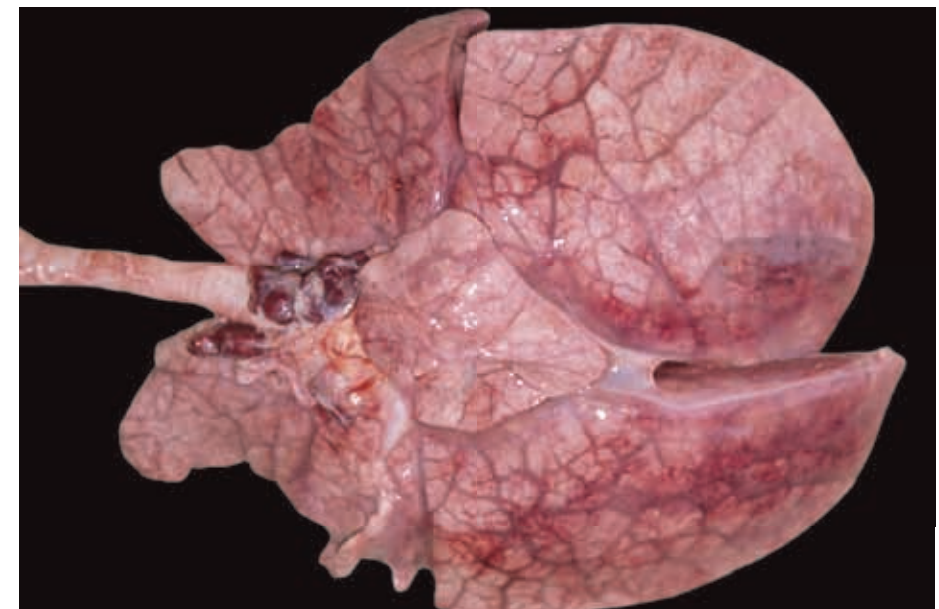
094



094 Interstitial pneumonia.

Enlarged alveolar walls due to the inflammatory mononuclear cell infiltrate. Concomitant infection PRRS-PCV. HE.

095



095 Interstitial pneumonia.

Ventral aspect of the lungs. Reddish consolidation foci distributed throughout the whole lung. The enlarged interlobular septa, with a gelatinous aspect, are a sign of the marked interstitial oedema. Lesions associated with infection by porcine circovirus.

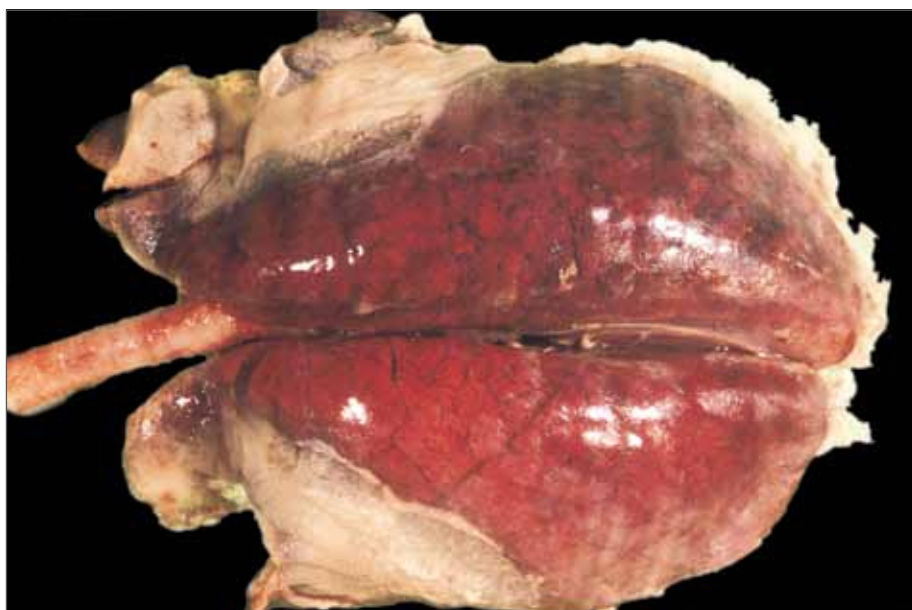
Thoracic cavity and pleura

158



158 Haemothorax.
Presence of non-coagulated blood in the thoracic cavity in a case of fibrinous pericarditis.

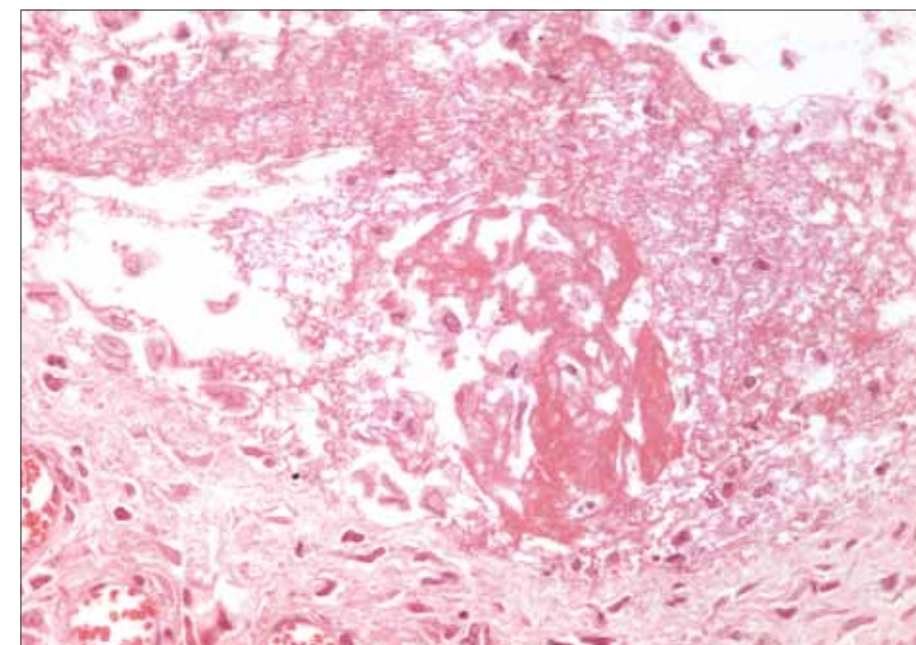
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159 Fibrinous pleuritis.
Greyish pseudomembranes on the serosa of both lungs, which are more dense in the cranioventral regions. Reddened lung as a result of congestion and marked septa due to interstitial oedema. Polyserositis.

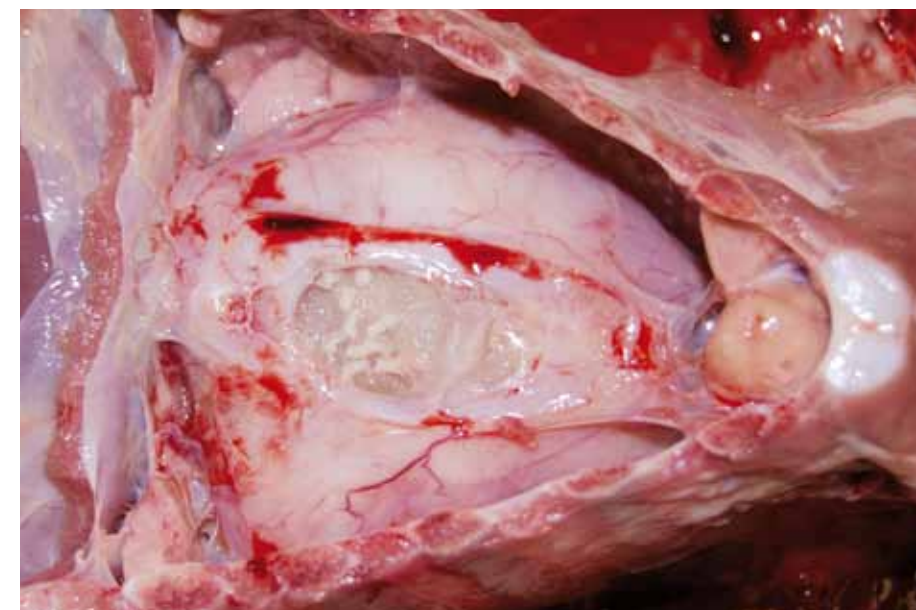
The morphological diagnosis established from the pseudomembranous inflammation does not exclude other changes in the composition of the fibrinous exudate, such as the presence of haemorrhage or serous or purulent exudate.

160



160 Fibrinous pleuritis.
Exudate in the form of an acidophilic mesh with shapeless and dense foci and few inflammatory cells. Polyserositis. HE.

161



161 Fibrinous polyserositis.
General aspect of the thoracic cavity. The volume of the pericardial sac stands out in the image due to the presence of thick pseudomembranes visible through the perforation.