

NTP Nonneoplastic Lesion Atlas

Lung – Amyloid

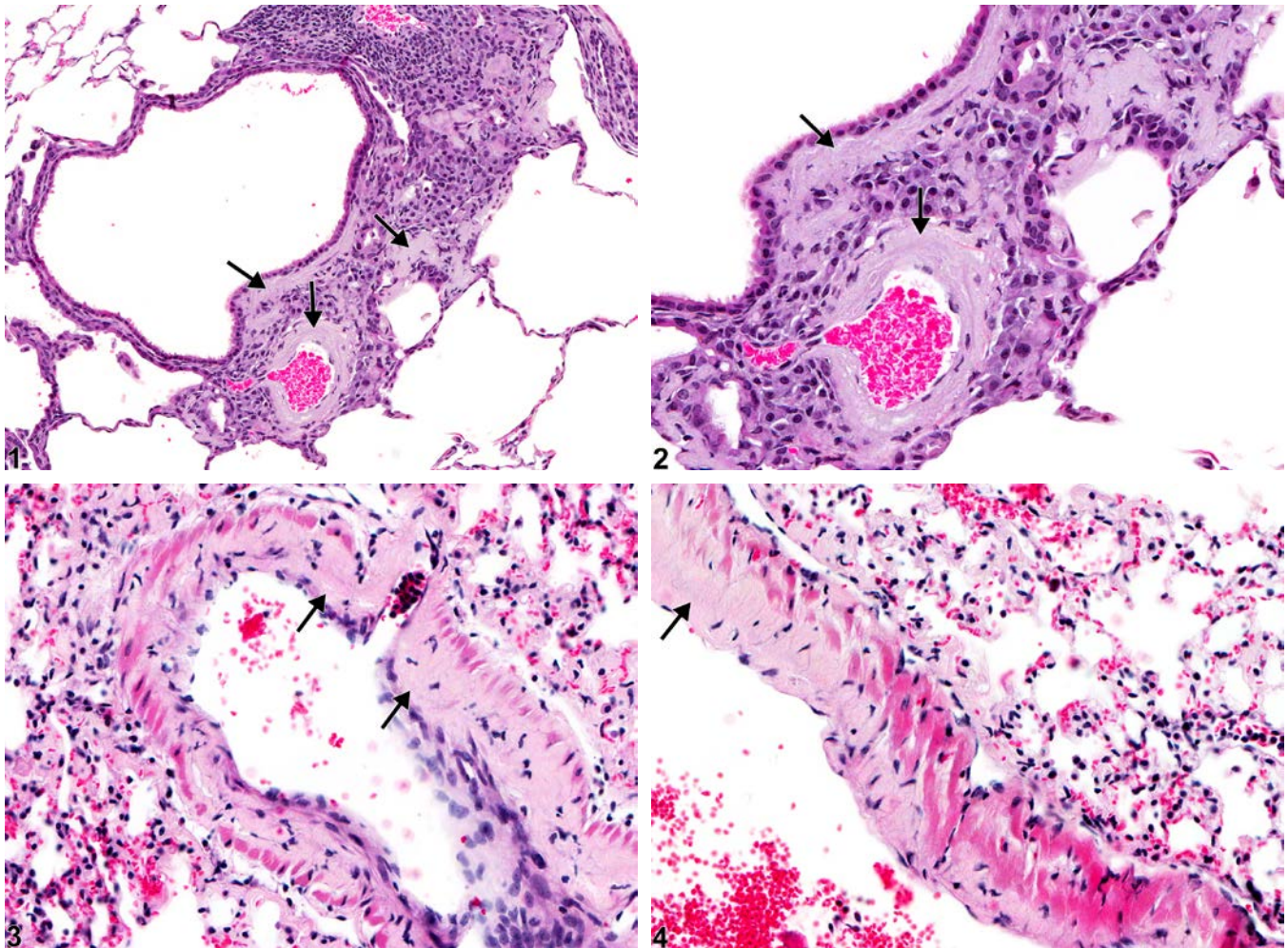
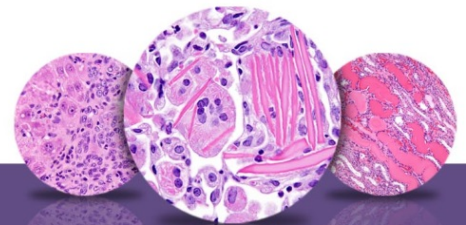


Figure Legend: **Figure 1** Lung - Amyloid in a female B6C3F1/N mouse from a chronic study. There is perivascular and peribronchiolar amyloid deposition (arrows). **Figure 2** Lung - Amyloid in a female B6C3F1/N mouse from a chronic study (higher magnification of Figure 1). There is perivascular and peribronchiolar, acellular, eosinophilic material (arrows). **Figure 3** Lung - Amyloid in a male B6C3F1/N mouse from a chronic study. There is deposition of amyloid in the vascular wall (arrows). **Figure 4** Lung - Amyloid in a male B6C3F1/N mouse from a chronic study. Acellular, eosinophilic material (amyloid) is present in the vessel wall (arrow).

Comment: Amyloid (Figure 1, Figure 2, Figure 3, and Figure 4) refers to insoluble, extracellular and/or intracellular proteins that appear as amorphous, eosinophilic, acellular material histologically. It stains



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positively with Congo red stain and has a characteristic apple green birefringence under polarized light. Deposition of amyloid can be focal, multifocal, or diffuse. Involvement of vascular walls is not uncommon, but it may also be seen in peribronchial areas. In severe cases, the pulmonary parenchyma may be effaced. Approximately 90% of the deposits consist of amyloid fibrils formed by the aggregation of misfolded proteins, and 10% of the deposits consist of glycosaminoglycans, apolipoprotein E, and serum amyloid P. Amyloidosis is found as a background change in some strains, such as CD-1 mice. Pulmonary amyloidosis is a spontaneous lesion in aging rodents and may be localized to the lung, or it may be a component of systemic amyloidosis involving spleen, kidney, liver, and other organs. It may also be associated with chronic inflammation. Since an association between amyloid deposition in the lung and xenobiotic administration has not been reported, amyloid deposition is generally considered a background finding. It may, however, be the cause of morbidity or mortality in some animals and can affect the outcome of a study.

Recommendation: Because this lesion is biologically important, Lung - Amyloid should be diagnosed and assigned a severity grade whenever present. The location of the amyloid deposits should be indicated in the diagnosis by using a site modifier. Any secondary lesions, such as necrosis or degeneration, should not be diagnosed separately unless warranted by severity but should be described in the pathology narrative.

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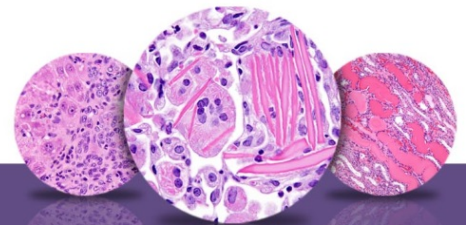
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