

NTP Nonneoplastic Lesion Atlas

Lung – Hypertrophy, Smooth Muscle

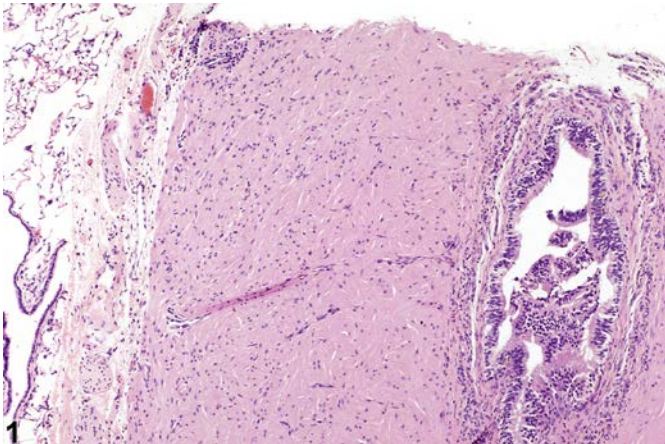


Figure Legend: **Figure 1** Lung, Bronchiole, Smooth muscle - Hypertrophy in a male F344/N rat from a chronic study. The smooth muscle around this bronchiole is markedly thickened; there is concurrent epithelial hyperplasia.

Comment: Bronchial smooth muscle hypertrophy (Figure 1) is characterized by increased size of smooth muscle cells and thickening of the smooth muscle layer around airways. It is a feature of airway wall remodeling in disease states resembling chronic asthma. Increased airway smooth muscle mass usually consists of both smooth muscle cell hyperplasia and hypertrophy, and may contribute to bronchial narrowing and airway hyperresponsiveness. It is occasionally seen in control animals (Figure 1) in toxicity studies, but the significance of the lesion is unclear.

Recommendation: Lung, Smooth muscle - Hypertrophy should be diagnosed and assigned a severity grade. A site modifier (i.e., bronchus or bronchiole) should be included to indicate which type of airway is affected. If both types of airways are affected, the site modifier may be omitted and the affected airways described in the pathology narrative. Associated lesions, such as inflammation or fibrosis, should be diagnosed separately. In some cases, where the smooth muscle hypertrophy is a minor component of a more prominent inflammatory or reactive process, the smooth muscle hypertrophy may be described in the pathology narrative as a component of that process, in lieu of a diagnosis. If hyperplasia of the smooth muscle cells is present concurrently, it may be described in the pathology narrative.



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References:

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