Lung – Mineral

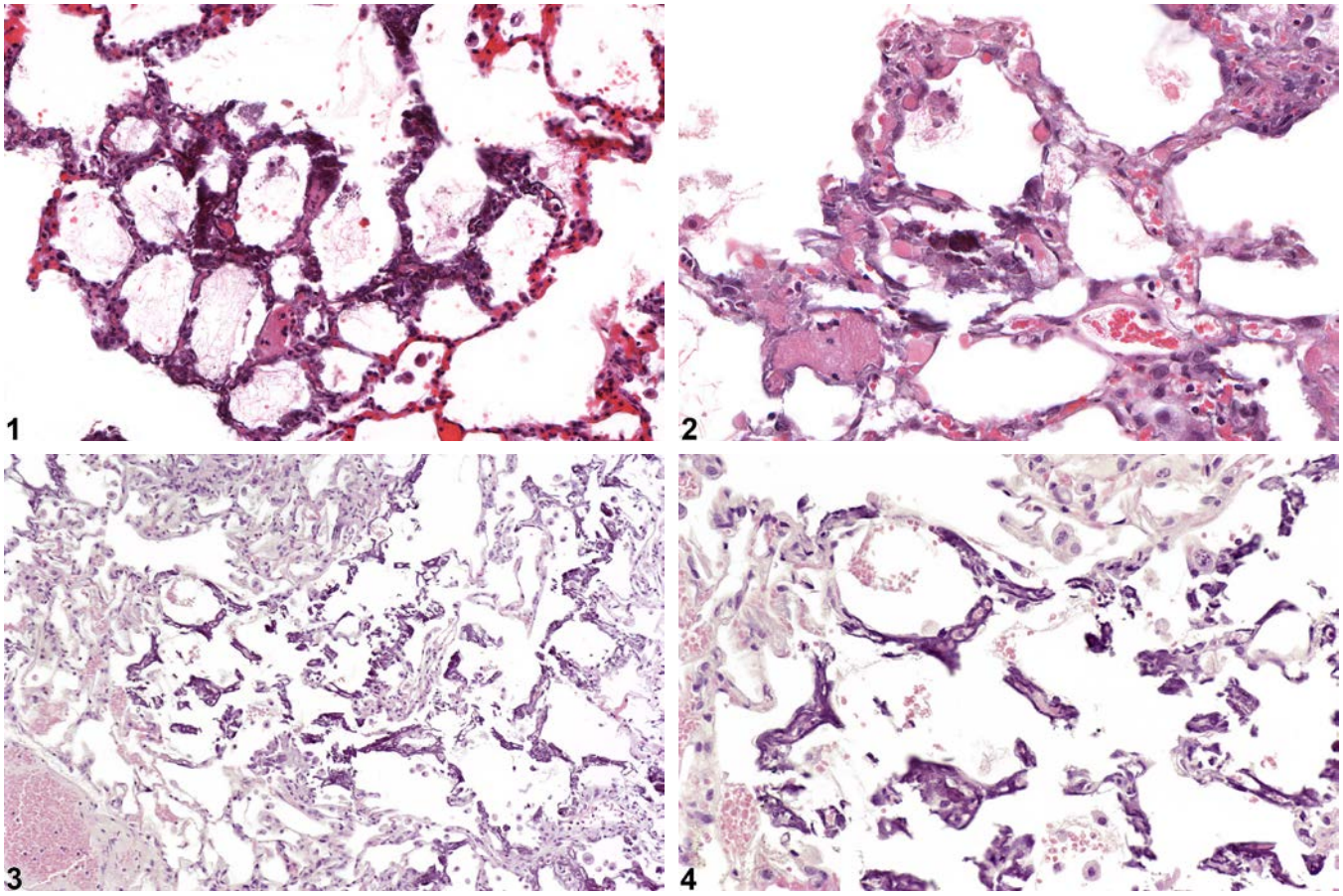
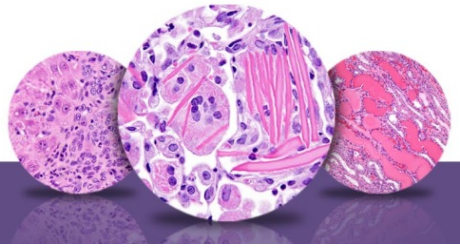


Figure Legend: **Figure 1** Lung, Interstitium - Mineral in a male F344/N rat from a chronic study. Deeply basophilic material is present within the expanded alveolar septa. **Figure 2** Lung, Interstitium - Mineral in a male F344/N rat from a chronic study. Basophilic mineral is present within cells and lining the alveolar septae. **Figure 3** Lung, Interstitium - Mineral in a male F344/N rat from a chronic study. Many of the fragmented alveolar septae contain basophilic material. **Figure 4** Lung, Interstitium - Mineral in a male F344/N rat from a chronic study (higher magnification of Figure 3). The mineral has been deposited primarily along basement membranes.

Comment: Mineral (calcification) is seen as deposits of granular, clumped, laminated, angular, or linear basophilic material that can be intracellular or extracellular (Figure 1, Figure 2, Figure 3, and Figure 4). Metastatic calcification results from hypercalcemia related to increased parathyroid hormone, vitamin D-related disorders, or renal failure resulting in secondary hyperparathyroidism. Dystrophic



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mineral occurs in areas of necrosis (regardless of derangements of calcium metabolism); it is found within the necrotic tissue and is not generally considered to be interstitial. Metastatic mineral in the alveolar interstitium (alveolar septa) in aged rats is often secondary to renal failure caused by chronic progressive nephropathy.

Recommendation: Lung - Mineral should be diagnosed when it is considered to be primary and not secondary to necrosis (i.e., metastatic mineralization). A site modifier (e.g., interstitium, blood vessel) should be included in the diagnosis to indicate the location of the mineral. The term “mineral” is preferred over “mineralization.” When diagnosed, it should be assigned a severity grade. Associated lesions, such as inflammation, should be diagnosed separately. Mineral secondary to necrosis (dystrophic mineralization) should be diagnosed only when, in the pathologist’s opinion, it is severe enough to warrant a separate diagnosis. The pathogenesis of any treatment-related mineral that is diagnosed should be discussed in the pathology narrative.

References:

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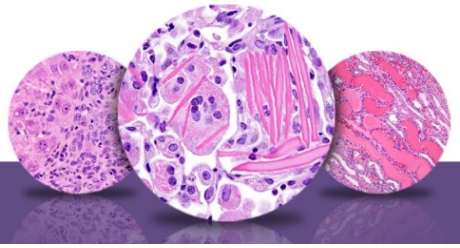

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