



NTP Nonneoplastic Lesion Atlas

Stomach, Forestomach – Mineralization

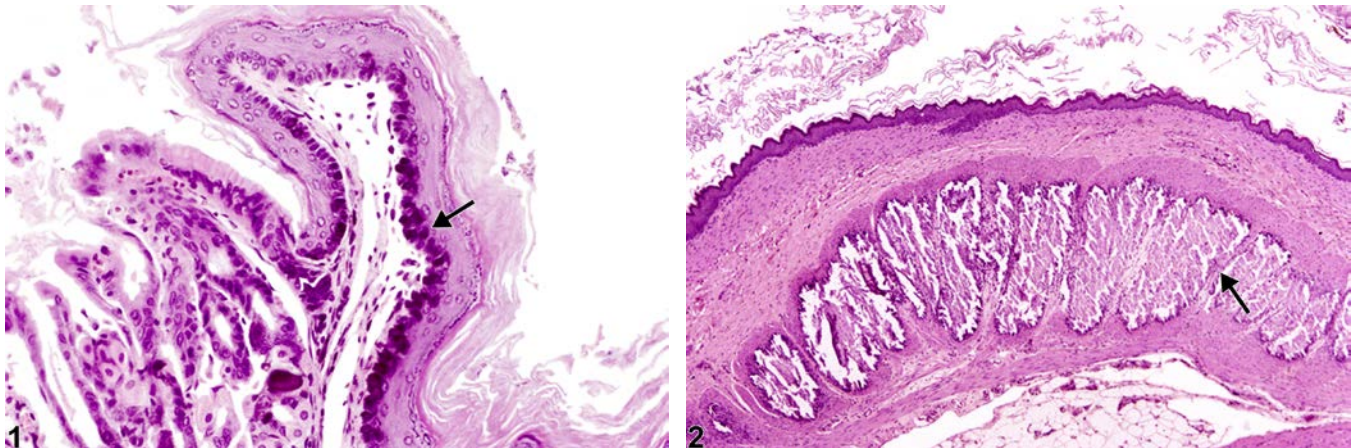


Figure Legend: Figure 1 Stomach, Forestomach - Mineralization in a male B6C3F1 mouse from a chronic study. Mineralization (arrow) is present along the basement membrane of the forestomach.

Figure 2 Stomach, Forestomach - Mineralization in a male F344/N rat from a chronic study. Mineralization (arrow) of tunica muscularis of forestomach is present.

Comment: Mineralization of the forestomach usually involves the submucosa, often along the basement membrane (Figure 1), and tunica muscularis (Figure 2). Microscopically, mineralization appears as distinct, crystalline, basophilic material in the tissue. Mineralization in the forestomach usually results from altered calcium-phosphorus metabolism and hyperparathyroidism associated with uremia secondary to end-stage chronic progressive nephropathy.

Recommendation: Mineralization should be diagnosed and graded based on the extent of the mineralization.

References:

Brown HR, Hardisty JF. 1990. Oral cavity, esophagus and stomach. In: Pathology of the Fischer Rat (Boorman GA, Montgomery CA, MacKenzie WF, eds). Academic Press, San Diego, CA, 9-30.

Abstract: <http://www.ncbi.nlm.nih.gov/nlmcatalog/9002563>

Leininger JR, Jokinen MP, Dangler CA, Whiteley LO. 1999. Oral cavity, esophagus, and stomach. In: Pathology of the Mouse (Maronpot RR, ed). Cache River Press, St Louis, MO, 29-48.

Abstract: <http://www.cacheriverpress.com/books/pathmouse.htm>



National Toxicology Program
U.S. Department of Health and Human Services



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