



NTP Nonneoplastic Lesion Atlas

Nose – Foreign Body

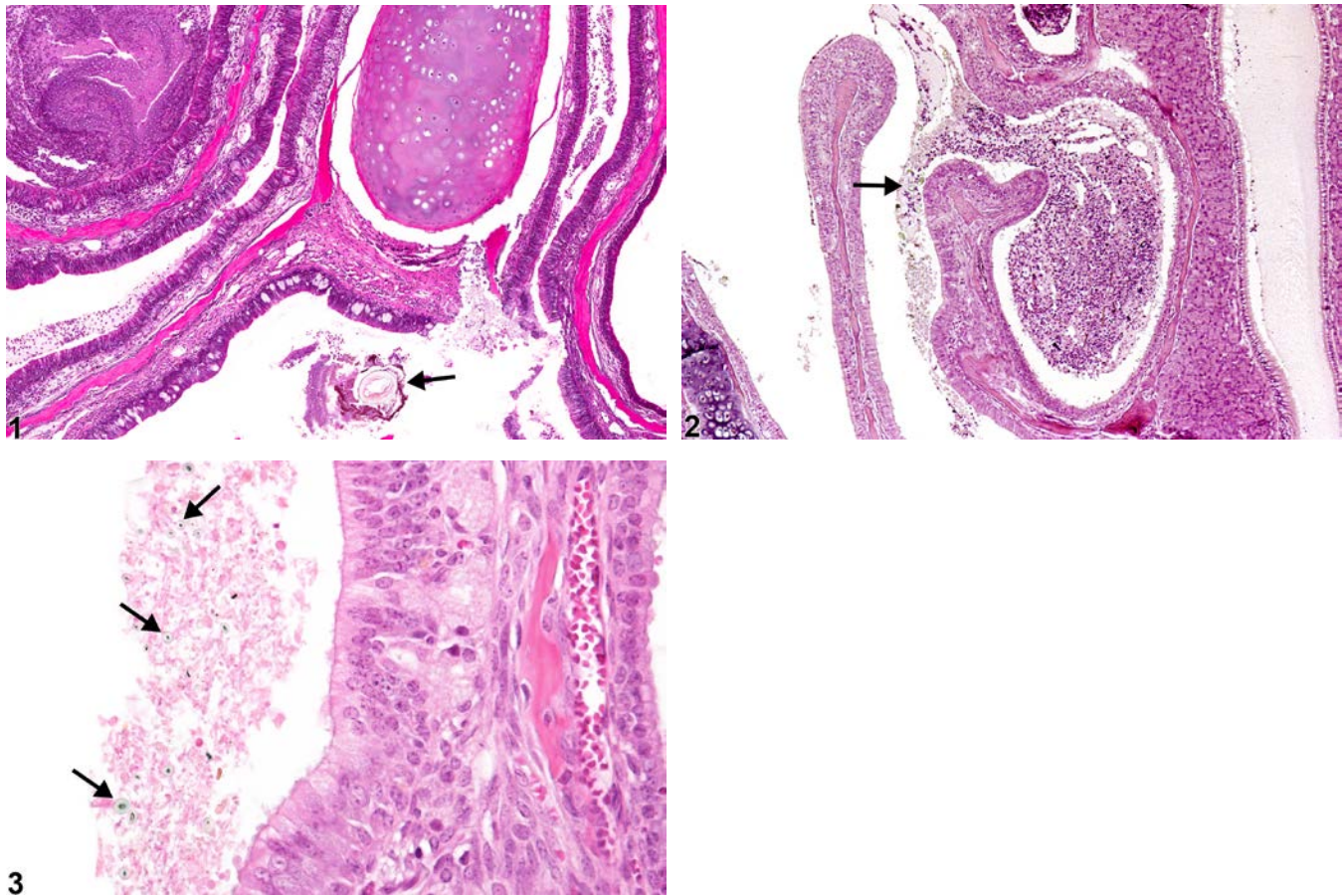


Figure Legend: **Figure 1** Nose - Foreign body in a female F344/N rat from a chronic study. There is hair fragment in the nasopharyngeal duct (arrow). **Figure 2** Nose - Foreign body in a female B6C3F1/N mouse from a subchronic study. Greenish foreign body fragments (arrow) are associated with inflammation. **Figure 3** Nose - Foreign body in a female B6C3F1/N mouse from a subchronic study (higher magnification of Figure 2). Greenish foreign body fragments (arrows) are associated with inflammation.

Comment: Foreign bodies are a common background finding in rats and mice and are not typically correlated with exposure concentration. The term “foreign body” refers to any aberrant material in the nasal cavity. If the morphology of the foreign material is consistent with the test agent, if the material is seen only in exposed animals, and if the amount of material correlates with the exposure concentration, the term “foreign material” should be used rather than foreign body (see Nose – Foreign material). The



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most common foreign bodies are hair shafts (Figure 1) and plant material (feed or bedding). Hair shafts are translucent and multilayered, and feed or plant-based bedding can be identified by the presence of plant cell walls. Often the material cannot be identified (Figure 2 and Figure 3, arrows). Foreign bodies can be found anywhere in the nasal cavity, in the lacrimal ducts, in the incisive ducts, or embedded in the tissues. The inhaled material typically incites a focal suppurative, pyogranulomatous, or granulomatous reaction and is usually surrounded by accumulations of macrophages and/or neutrophils. The epithelium adjacent to the foreign body may also show changes (e.g., necrosis or degeneration, squamous metaplasia, or hyperplasia).

Recommendation: Foreign bodies should be diagnosed when present but should not be graded. If the foreign body is in a location other than the nasal lumen (e.g., lacrimal duct or nasopharyngeal duct), the location should be identified in the diagnosis with a site modifier. The inflammation and any epithelial changes that may accompany a foreign body should not be diagnosed separately unless warranted by severity. The term “foreign material” should be used when the material is thought to be the test agent based on morphology, correlation with exposure concentration, and presence only in exposed animals.

References:

Boorman GA, Morgan KT, Uraih LC. 1990. Nose, larynx, and trachea. In: Pathology of the Fischer Rat: Reference and Atlas (Boorman GA, Eustis SL, Elwell MR, eds). Academic Press, San Diego, 315-337.

Uraih LC, Maronpot RR. 1990. Normal histology of the nasal cavity and application of special techniques. Environ Health Perspect 85:187-208.

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Authors:

Rodney A. Miller, DVM, PhD, DACVP
NC Pathology Group Manager
Senior Pathologist
Experimental Pathology Laboratories, Inc.
Research Triangle Park, NC

Mark F. Cesta, DVM, PhD, DACVP
Staff Scientist, NTP Pathologist
Cellular and Molecular Pathology Branch
Division of the National Toxicology Program
National Institute of Environmental Health Sciences
Research Triangle Park, NC