



NTP Nonneoplastic Lesion Atlas

Nose – Fungus

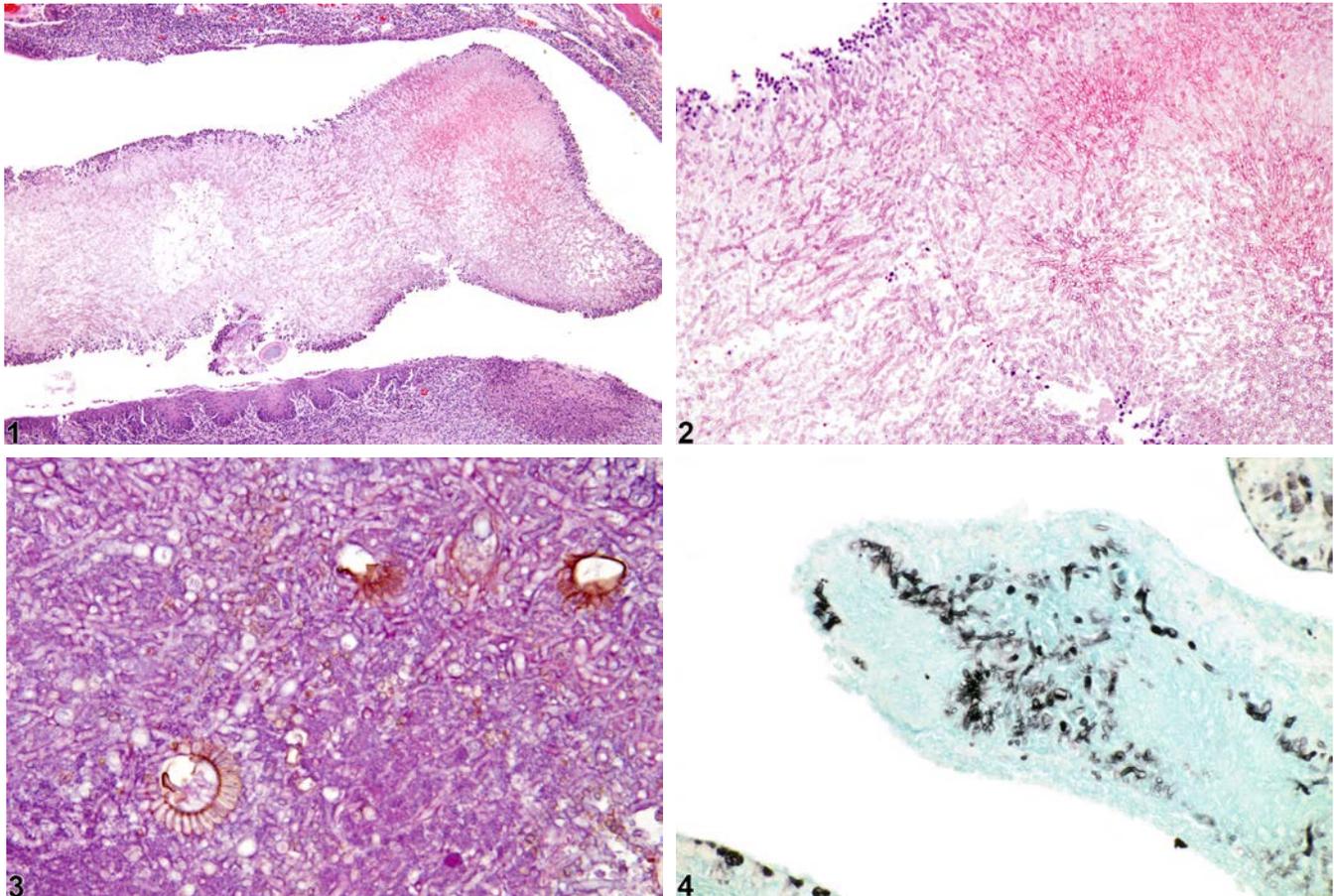
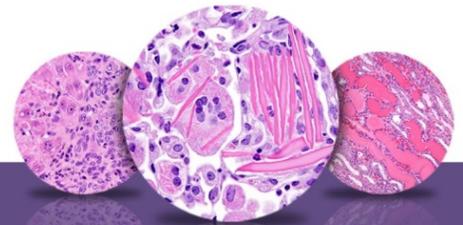


Figure Legend: **Figure 1** Nose - Fungus in a male F344/N rat from a chronic study. A mat of fungal hyphae is present in the lumen of the nasal cavity and is accompanied by epithelial changes and inflammation of the nasal tissue. **Figure 2** Nose - Fungus in a male F344/N rat from a chronic study (higher magnification of Figure 1). The hyphae are visible in the fungal mat. **Figure 3** Nose - Fungus in a male F344/N rat from a chronic study. Characteristic pigmented fruiting heads and hyphae are shown in a fungal mat from the nasal cavity. **Figure 4** Nose - Fungus in a male F344/N rat from a chronic study. Silver staining techniques, such as this Gomori's methenamine silver stain, highlight the fungal organisms.

Comment: Fungal organisms are occasionally seen in the nasal cavities of mice and rats from NTP toxicity/carcinogenicity studies, more commonly in rats. Mats of fungal mycelia may occur within the nasal passages (Figure 1, Figure 2, Figure 3, and Figure 4), but tissue invasion is extremely rare.



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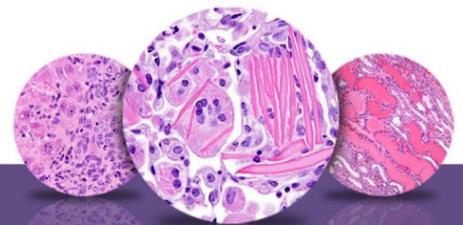
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Based on fungal morphology (characteristic fruiting heads and hyphal branching patterns) and reports in the literature, the fungal organisms are usually an *Aspergillus* sp., with *Aspergillus fumigatus* being the most common. *Aspergillus* spp. have characteristic fruiting heads and hyphal branching patterns (Figure 3). The fungi are typically accompanied by suppurative inflammation. Changes such as hyperplasia and metaplasia are usually present in the adjacent epithelium, and there is often acute to chronic-active inflammation in the associated underlying lamina propria.

Recommendation: Fungus should be diagnosed whenever present but should not be graded. The morphologic features of the fungal organisms should be described in the narrative. The fungal genera/species cannot be definitively identified by histopathology alone; however, it may be stated that the morphologic features are consistent with a particular type of fungal organism. When warranted by severity, all associated lesions should be diagnosed separately and assigned severity grades. Whenever possible, it should be noted in the narrative whether or not the associated lesions are secondary to the presence of the fungus or if they may be related to treatment.

References:

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