



NTP Nonneoplastic Lesion Atlas

Lacrimal Gland – Inflammation

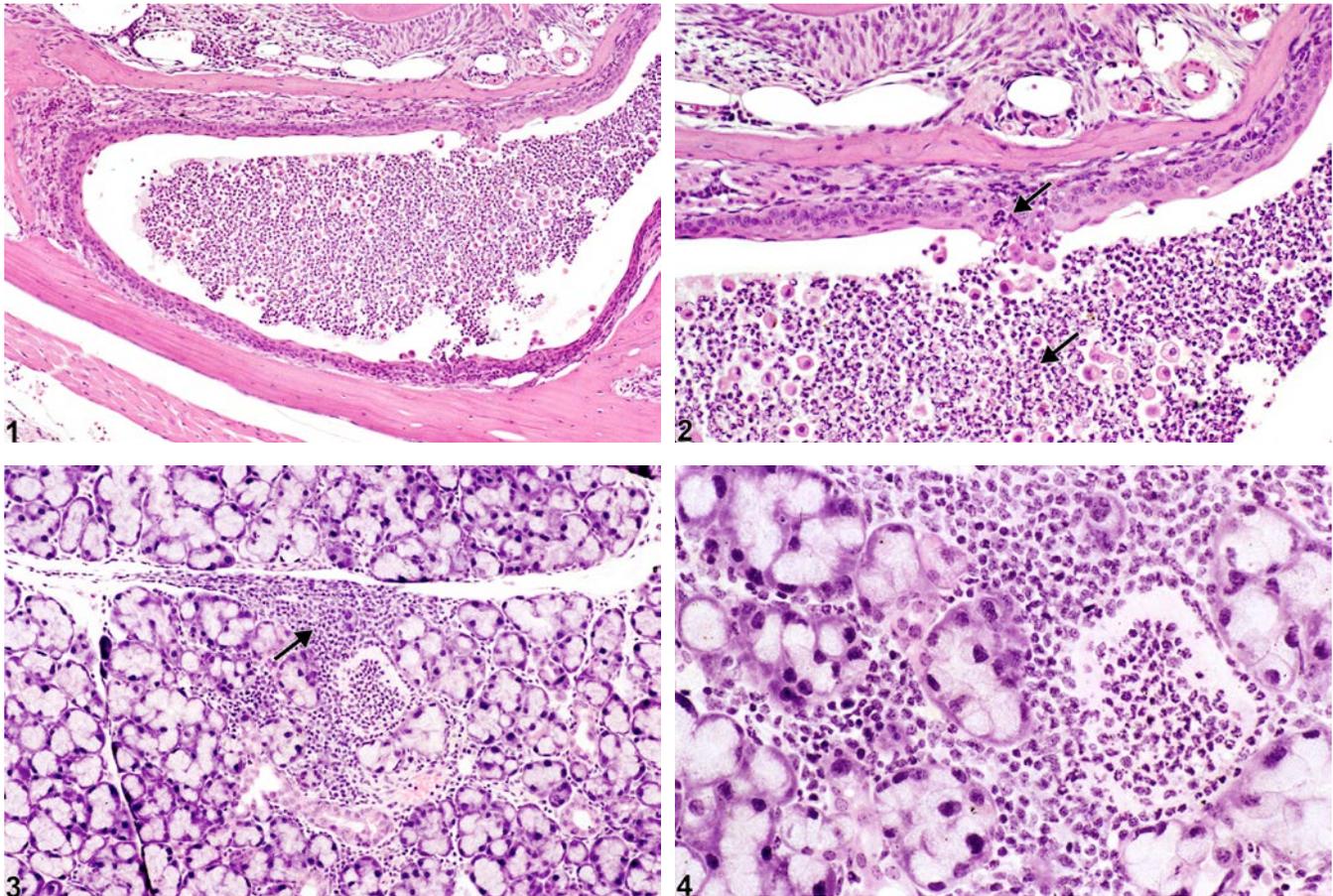


Figure Legend: **Figure 1** Lacrimal gland - Inflammation, Acute in a male B6C3F1 mouse from a chronic study. Acute inflammation is characterized by predominantly neutrophil accumulations in the lacrimal gland duct. **Figure 2** Lacrimal gland - Inflammation, Acute in a male B6C3F1 mouse from a chronic study (higher magnification of Figure 3). The neutrophils are present in the lumen and mucosa (arrow) of the lacrimal gland duct. **Figure 3** Lacrimal gland - Inflammation, Chronic active in a female B6C3F1 mouse from a chronic study. Chronic active inflammation (arrows) is characterized by neutrophil and mononuclear cell infiltrates in the interstitium and glandular lumens. **Figure 4** Lacrimal gland - Inflammation, Chronic active in a female B6C3F1 mouse from a chronic study (higher magnification of Figure 1). The neutrophils tend to accumulate in the glandular lumens, while the mononuclear cells are more prevalent in the interstitium.



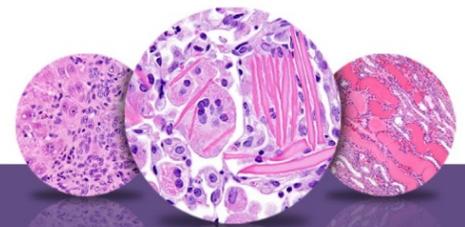
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Comment: Lacrimal gland inflammation in rats and mice can result from various causes, including retrobulbar bleeding trauma, infectious agents such as sialodacryoadenitis virus in rats, and autoimmune disease.

In NTP studies, there are five standard categories of inflammation: acute, suppurative, chronic, chronic-active, and granulomatous. In acute inflammation (Figure 1 and Figure 2), the predominant infiltrating cell is the neutrophil, though fewer macrophages and lymphocytes may also be present. There may also be evidence of edema or hyperemia. The neutrophil is also the predominant infiltrating cell type in suppurative inflammation, however, in suppurative inflammation, the neutrophils are aggregated and many of them are degenerate (suppurative exudate). Cell debris, both from the resident cell populations and infiltrating leukocytes, proteinaceous fluid containing fibrin, fewer macrophages, occasional lymphocytes or plasma cells, and, possibly, an infectious agent may also be present in within the exudate. Grossly, these lesions would be characterized by the presence of pus. In the tissue surrounding the exudate, there may be fibroblasts, fibrous connective tissue, and mixed inflammatory cells, depending on the chronicity of the lesion. Lymphocytes predominate in chronic inflammation. Lymphocytes also predominate in chronic-active inflammation (Figure 3 and Figure 4), but in chronic-active inflammation, there are also a significant number of neutrophils. Both lesions may contain macrophages. Granulomatous inflammation is another form of chronic inflammation, but this diagnosis requires the presence of a significant number of aggregated, large, activated macrophages, epithelioid macrophages, or multinucleated giant cells. Inflammation is differentiated from cellular infiltrates by the presence of other changes, such as edema, hemorrhage, degeneration, necrosis, or other evidence of tissue damage.

Recommendation: Lacrimal gland inflammation should be diagnosed and assigned a severity grade whenever present. The type of inflammation should be indicated in the diagnosis with an appropriate modifier (acute, chronic, etc.). The location of the inflammation within the gland (acini or duct) should be indicated in the pathology narrative. Associated lesions (e.g., fibrosis) should not be diagnosed separately unless warranted by severity, but should be described in the pathology narrative.



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