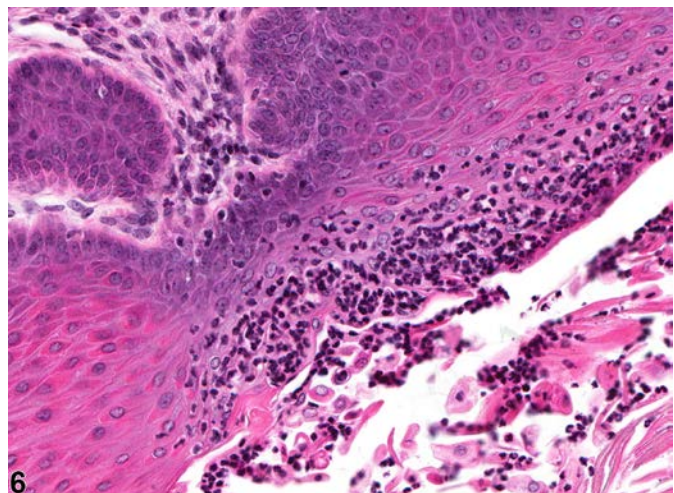
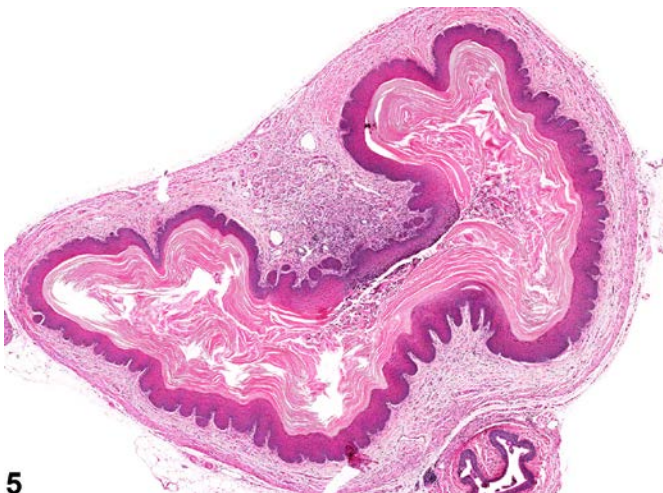
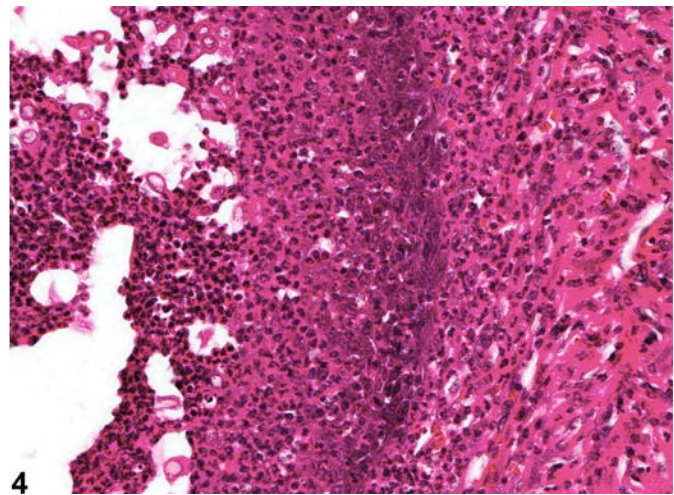
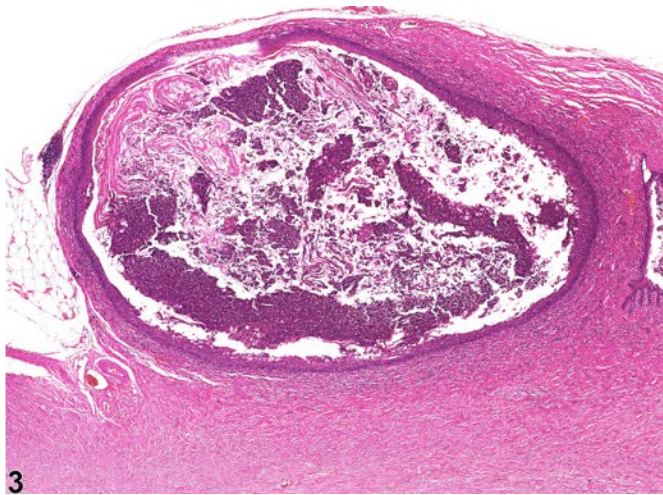
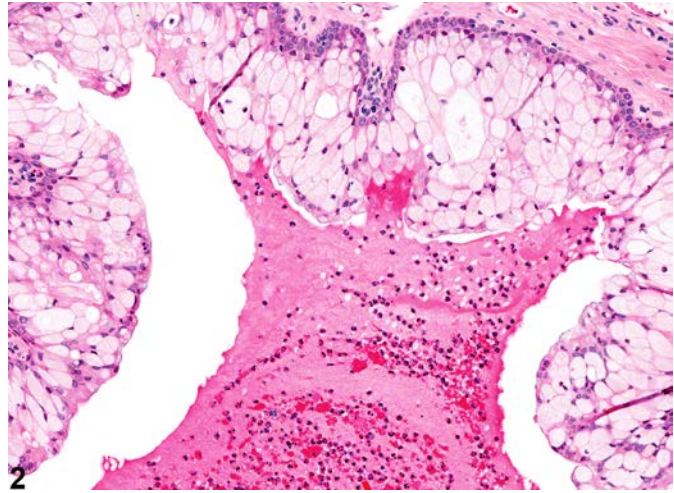
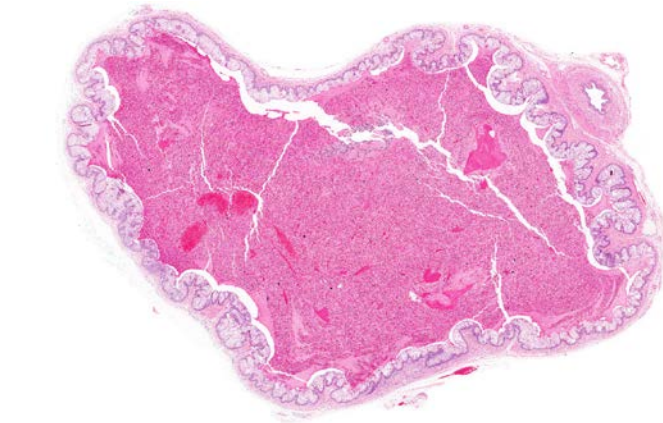


NTP Nonneoplastic Lesion Atlas

Vagina – Inflammation





NTP Nonneoplastic Lesion Atlas

Vagina – Inflammation

Figure Legend: **Figure 1** Vagina - Inflammation, Acute in a female F344/N rat from a chronic study. The lumen of the vagina is filled with copious eosinophilic material. **Figure 2** Vagina - Inflammation, Acute in a female F344/N rat from a chronic study. The lumen of the vagina is filled with copious eosinophilic material and neutrophils, and there is mucification of the vaginal epithelium. **Figure 3** Vagina - Inflammation, Suppurative in a female F344/N rat from a chronic study. An area of suppurative inflammation is present in the vaginal wall. **Figure 4** Vagina - Inflammation, Suppurative in a female F344/N rat from a chronic study (higher magnification of Figure 3). There is a lack of epithelial lining demarcating the inflammatory cells from the adjacent vagina. **Figures 5** Vagina - Inflammation, Chronic active in a female B6C3F1/N mouse from a chronic study. Chronic active inflammation is present in a focal area of epithelial erosion. **Figure 6** Vagina - Inflammation, Chronic active in a female B6C3F1/N mouse from a chronic study (higher magnification of Figure 1). A focal area of inflammation is associated with erosion of epithelium.

Comment: 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* (Figure 3 and Figure 4), but they are aggregated, and many of them are degenerate (suppurative exudate). Cell debris, from both the resident cell populations and infiltrating leukocytes, and proteinaceous fluid containing fibrin, fewer macrophages, occasional lymphocytes or plasma cells, and, possibly, an infectious agent may also be present 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. Abscesses should be diagnosed histologically as suppurative inflammation. Lymphocytes predominate in *chronic inflammation*. Lymphocytes also predominate in *chronic active inflammation* (Figure 5 and Figure 6), but 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



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differentiated from cellular infiltrates by the presence of other changes, such as edema, hemorrhage, degeneration, necrosis, or other evidence of tissue damage.

Frank suppurative inflammation (pyometra) is occasionally encountered in the vagina and is often associated with inflammation in the contiguous organs, cervix, and uterus. Mild inflammation is commonly observed, but this must be differentiated from the normal presence of inflammatory cells at certain stages in the estrous cycle. In the estrus cycle there tend to be more transepithelial migratory neutrophils, with only a few, if any, luminal accumulations of neutrophils.

Recommendation: Vagina - Inflammation should be diagnosed and graded whenever it is considered a treatment effect. Inflammatory cells present as a normal component of the estrous cycle should not be diagnosed. Lesions that are secondary to the inflammation, such as necrosis, should not be diagnosed separately unless warranted by severity. If the inflammation is secondary to another lesion, such as necrosis or neoplasia, it should not be diagnosed separately unless warranted by severity. When diagnosed, the type of inflammation should be indicated in the diagnosis through the use of a modifier.

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