



NTP Nonneoplastic Lesion Atlas

Penis – Inflammation, [Acute, Suppurative, Chronic, Chronic-active, Granulomatous]

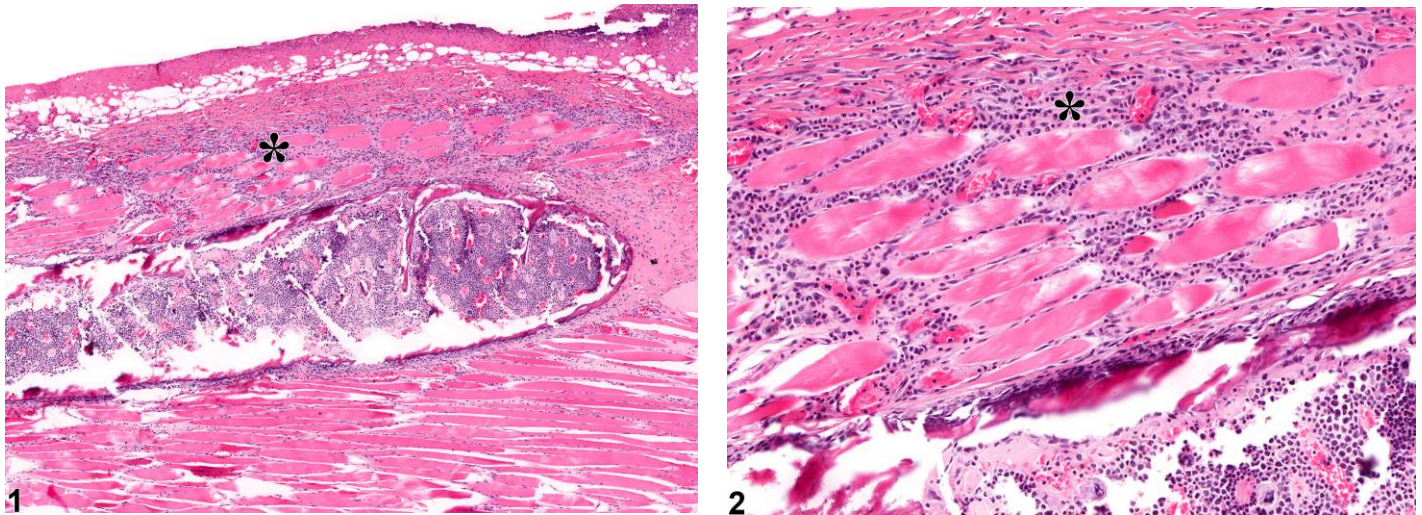
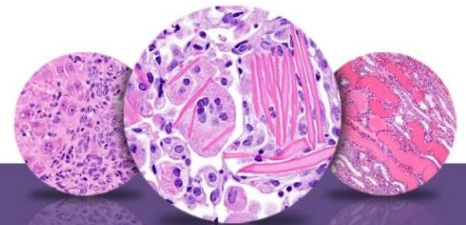


Figure Legend: **Figure 1** Penis - Inflammation. Asterisk indicates chronic inflammation in a male B6C3F1 mouse from a chronic study. **Figure 2** Penis - Inflammation. Higher magnification of Figure 1. Asterisk indicates chronic inflammation in a male B6C3F1 mouse from a chronic study.

Comments: Chronic inflammation of the penis (asterisks, Figure 1 and Figure 2) is characterized by mononuclear inflammatory cells surrounding skeletal muscle fibers in the penis. Inflammation of the penis is not common in rodents. Association of chemical agents with inflammation of the penis is unknown.

NTP studies have five standard categories of inflammation: acute, suppurative, chronic, chronic-active, and granulomatous. In *acute inflammation*, 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*, but they are aggregated, and many of them are degenerate (suppurative exudate). Cell debris from both 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. The tissue surrounding the exudate may have fibroblasts, fibrous connective tissue, and mixed inflammatory cells, depending on the chronicity of the lesion. Lymphocytes predominate in *chronic*



NTP Nonneoplastic Lesion Atlas

Penis – Inflammation, [Acute, Suppurative, Chronic, Chronic-active, Granulomatous]

inflammation. Lymphocytes also predominate in *chronic-active inflammation*, 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.

Recommendation: Inflammation of the penis should be diagnosed, classified, and graded.

Reference:

Boorman GA, Elwell MR, Mitsumori K. 1990. Male accessory sex glands, penis, and scrotum. In: Pathology of the Fischer Rat: Reference and Atlas (Boorman GA, Eustis SL, Elwell MR, Montgomery CA, MacKenzie WF, eds). Academic Press, San Diego, 419-428.

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

Authors:

Dianne M. Creasy, PhD, Dip RCPATH, FRCPath
Dianne Creasy Consulting LLC
Pipersville, PA

Robert R. Maronpot, DVM, MS, MPH, DACVP, DABT, FIATP
Senior Pathologist
Experimental Pathology Laboratories, Inc.
Research Triangle Park, NC

Dipak K. Giri, DVM, PHD, DACVP
Toxicologic Pathologist
Integrated Laboratory Systems, Inc.
Research Triangle Park, NC