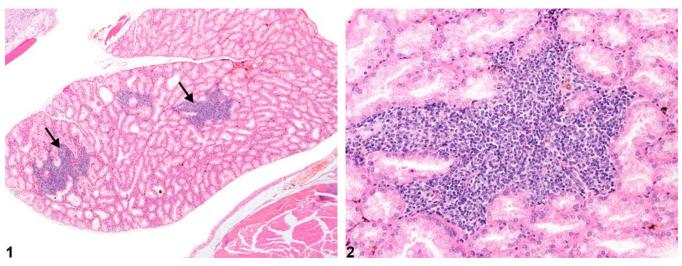


# NTP Nonneoplastic Lesion Atlas

### Harderian Gland - Infiltration Cellular, Mononuclear Cell



**Figure Legend: Figure 1** Harderian gland - Infiltration cellular, Mononuclear cell in a female B6C3F1 mouse from a chronic study. Focal interstitial clusters of mononuclear cells (arrows) in the Harderian gland. **Figure 2** Harderian gland - Infiltration cellular, Mononuclear cell in a female B6C3F1 mouse from a chronic study (higher magnification of Figure 1). There are no other features of inflammation accompanying the mononuclear cell infiltrates.

**Comment:** Small focal clusters of inflammatory cells in the interstitium are common incidental findings in the Harderian gland of rats and mice. These infiltrates are most commonly mononuclear cells (lymphocytes) (Figure 1 and Figure 2), but other inflammatory cells may also be present. Increased incidences and severity of such infiltrates can also be associated with various pathologic conditions. Cellular infiltrates can be distinguished from inflammation by the presence of other features of inflammation, such as tissue destruction, hemorrhage, fibrosis, edema, or additional types of leukocytes.

**Recommendation:** Harderian gland infiltrates should be diagnosed and assigned a severity grade, especially when there are treatment-related increases in incidence and/or severity. The predominant type of cell present should be indicated in the diagnosis as a modifier (e.g., Harderian gland - Infiltration cellular, Mononuclear cell). If there is an even mix of cell types (i.e., no one cell type predominates), the modifier "mixed" may be used.



# NTP Nonneoplastic Lesion Atlas

## Harderian Gland - Infiltration Cellular, Mononuclear Cell

#### References:

Botts S, Jokinen M, Gaillard ET, Elwell MR, Mann PC. 1999. Salivary, Harderian, and lacrimal glands. In: Pathology of the Mouse: Reference and Atlas (Maronpot RR, Boorman GA, Gaul BW, eds). Cache River Press, Vienna, IL, 49-79.

Abstract: http://www.cacheriverpress.com/books/pathmouse.htm

Gaertner DJ, Lindsay JR, Stevens JO. 1988. Cytomegalic changes and "inclusions" in lacrimal glands of laboratory rats. Lab Anim Sci 38:79-82.

Abstract: http://ebm.sagepub.com/content/101/1/164.short

Greaves P. 2007. Nervous system and special sense Organs. In: Histopathology of Preclinical Toxicity Studies: Interpretation and Relevance in Drug Safety Evaluation, 3rd ed. Academic Press, San Diego, CA, 861-933.

Abstract: http://www.sciencedirect.com/science/book/9780444527714

Hall WC, Ganaway JR, Rao GN, Peters RL, Allen AM, Luczak JW, Sandberg EM, Quigley BH. 2002. Histopathologic observations in weanling B6C3F1 mice and F344/N rats and their adult parental strains. Toxicol Pathol 20:146-154.

Abstract: http://tpx.sagepub.com/content/20/2/146.short

Krinke GJ, Schaetti PR, Krinke A. 1996. Nonneoplastic and neoplastic changes in the Harderian and lacrimal glands. In: Pathobiology of the Aging Mouse, Vol 2 (Mohr U, Dungworth DL, Capen CC, Carlton WW, Sundberg JP, Ward JM, eds). International Life Sciences Institute Press, Washington, DC, 139-152.

Lambert RA, Yudkin AM. 1923. Changes in the paraocular glands accompanying the ocular lesions which result from a deficiency of vitamine A. J Exp Med 38:25-32.

Abstract: http://www.ncbi.nlm.nih.gov/pubmed/19868768

National Toxicology Program. 1989. NTP TR-353. Toxicology and Carcinogenesis Studies of 2,4-Dichlorophenol (CAS No. 120-83-2) in F344/N Rats and B6C3F<sub>1</sub> Mice (Feed Studies). NTP, Research Triangle Park, NC.

Abstract: <a href="http://ntp.niehs.nih.gov/go/6967">http://ntp.niehs.nih.gov/go/6967</a>

Papaccio G, Sellitti S, Salvatore G, Latronico MVG, Chieffi Baccari G. 1996. The Harderian gland in autoimmune diabetes of the nonobese diabetic mouse. Microsc Res Tech 34:156-165.

Abstract: http://www.ncbi.nlm.nih.gov/pubmed/8722711

### Author:

Margarita M. Gruebbel, DVM, PhD, DACVP Senior Pathologist Experimental Pathology Laboratories, Inc. Research Triangle Park, NC