Mammary Gland – Hyperplasia, Atypical

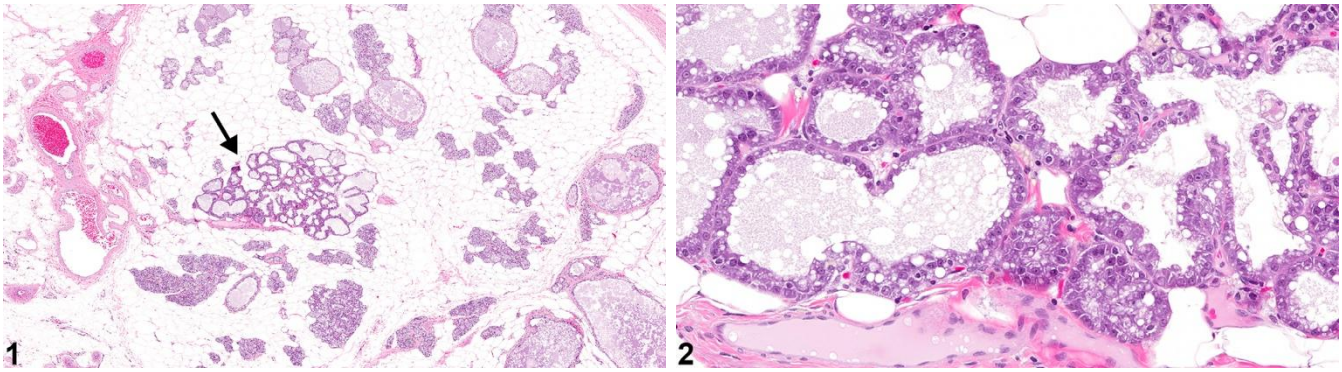
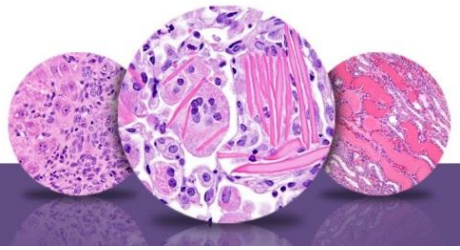


Figure Legend: Figure 1 Mammary gland, Alveolus - Atypical Hyperplasia, in a female F344/N rat from a chronic study. There is a focal area of Atypical Hyperplasia (arrow) in the mammary gland. **Figure 2** Mammary gland, Alveolus - Atypical Hyperplasia, in a female F344/N rat from a chronic study (higher magnification of Figure 1). A focal area of Atypical Hyperplasia characterized by pleomorphic lining cells arranged in multiple layers, infoldings, and solid nests in the mammary gland.

Keywords: mouse; rat; mammary gland; duct; alveolus; hyperplasia; lobular; atypical

Comment: *Atypical hyperplasia* is sometimes observed (Figure 1 and Figure 2). This finding can occur in ducts, ductules, alveoli, or even within areas of lobular hyperplasia. It is characterized by lining cells arranged in multiple layers, infoldings, solid nests, or even papillary formations. The affected cells are pleomorphic and often enlarged, with features such as large hyperchromatic nuclei, increased numbers of mitotic figures, and increased cytoplasmic eosinophilia or basophilia. The cells with increased cytoplasmic eosinophilia often contain vacuoles that are suggestive of secretory cells, while the cells with the more basophilic cytoplasm most often do not have vacuoles and are suggestive of ductular epithelium. The alveoli may be normal in shape, or they may be irregular and enlarged. In contrast, proliferating cells of non-atypical hyperplasia lack the cellular atypia, architectural distortion, and other cytological abnormalities seen in atypical hyperplasia. Studies of chemically induced mammary cancer suggest a possible link between atypical ductular hyperplasia and adenocarcinoma (Harvell, et al.).



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Recommendation: Atypical hyperplasia of the mammary gland should be diagnosed and assigned a severity grade whenever present. A site modifier should be included in the diagnosis to indicate the location of the lesion (e.g., ducts or alveoli).

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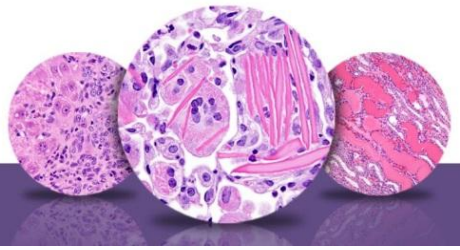

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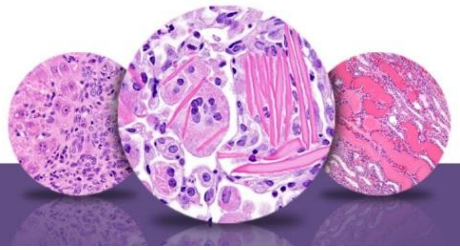
Authors:

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

Priyanka Thakur, BVSc, MVSc, PhD, DACVP
Pathologist
Inotiv
Research Triangle Park, NC

Suzanne Fenton, MS, PhD
Director of the Center for Human Health and Environment (CHHE)
Professor
Department of Biological Sciences
North Carolina State University
Raleigh, NC



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Gabrielle Willson, BVMS, Dip RC Path, FRC Path, MRCVS
Senior Pathologist, Retired
Experimental Pathology Laboratories, Inc.
Research Triangle Park, NC