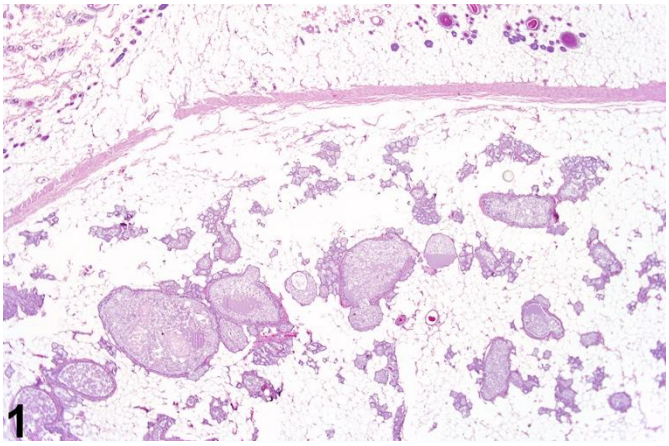
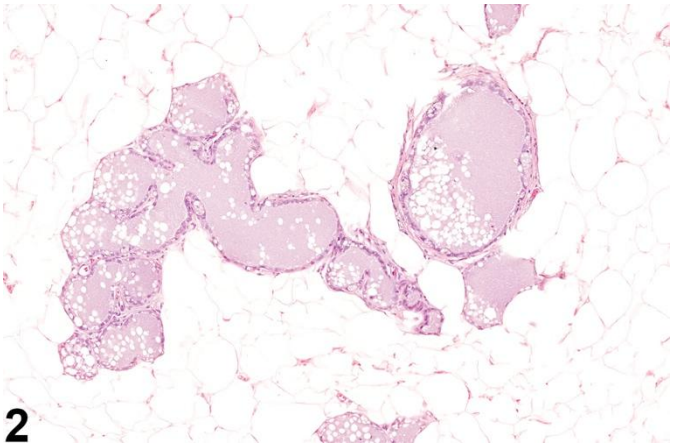
Mammary Gland – Dilation





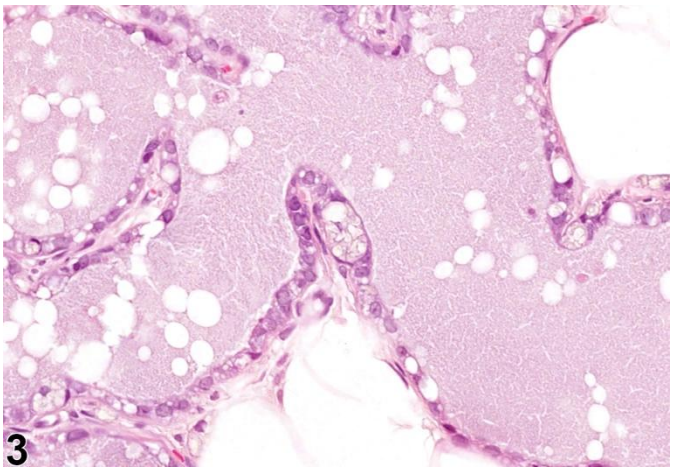
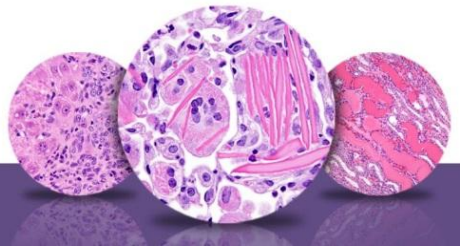


Figure Legend: Figure 1 Mammary gland - Dilation in a female F344/N rat from a chronic study. There are scattered ducts and alveoli distended by intraluminal accumulations of amorphous, secretory material. **Figure 2** Mammary gland - Dilation in a female F344/N rat from a chronic study. (Higher magnification of Figure 1) Alveolus is minimally distended with pale amorphous secretory material. **Figure 3** Mammary gland - Dilation in a female F344/N rat from a chronic study. (Higher magnification of Figure 2) Distended alveolus with vacuolated lining epithelium.

Keywords: mouse; rat; mammary gland; duct; alveolus; dilation; ectasia

Comment: Benign mammary gland dilation is a common age-related change in animals. As animals age, in the process of involution, the composition of the mammary gland changes from



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mostly glandular to mostly fatty, which can result in blockage of a duct, intraluminal accumulations, and dilation. Additionally, the age-related changes of mammary gland dilation may be associated with mammary gland hyperplasia and metaplasia. In younger animals treated with xenobiotics, duct dilation suggests perturbation of the hypothalamic-pituitary-gonadal axis.

Mammary gland dilation can affect ducts, alveoli, or both. It is often a diffuse change characterized by distention of collecting (lactiferous) ducts and alveoli beneath a nipple by intraluminal accumulations of amorphous, proteinaceous eosinophilic, secretory material, lipid, cell debris, and, sometimes, inflammatory cells. The lining epithelial cells of duct dilation are often vacuolated and can occur with or without epithelial hypertrophy or hyperplasia. Galactoceles are considered an extreme form of dilation and are characterized by focally dilated mammary gland ducts and alveoli that have become cystic and very large, lined by flattened epithelium, and filled with proteinaceous secretory fluid. Galactoceles may rupture and be associated with inflammation and fibrosis.

Recommendation: Mammary gland dilation should be diagnosed and assigned a severity grade based upon the size and number of dilated glands. If possible, a site modifier should be included in the diagnosis to indicate the anatomic location of the lesion (e.g., duct and/or alveolus). The difference between dilation and galactocele is largely the degree of dilation (galactoceles are typically detectable grossly) and severity of secondary changes (inflammation, fibrosis, etc.). The diagnosis can be subjective and will be left to the judgement of the pathologist. If the cells lining the dilated ducts are hyperplastic or hypertrophic, then epithelial hypertrophy or hyperplasia should be diagnosed and the dilation described in the pathology narrative. If the dilation is associated with inflammation, the dilation should not be diagnosed separately unless warranted by severity.

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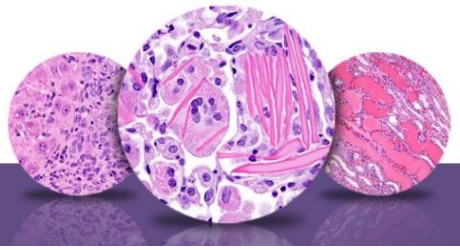

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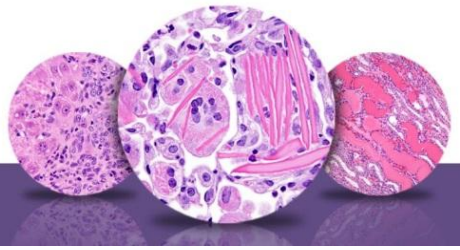

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