Parathyroid Gland – Hyperplasia, Focal

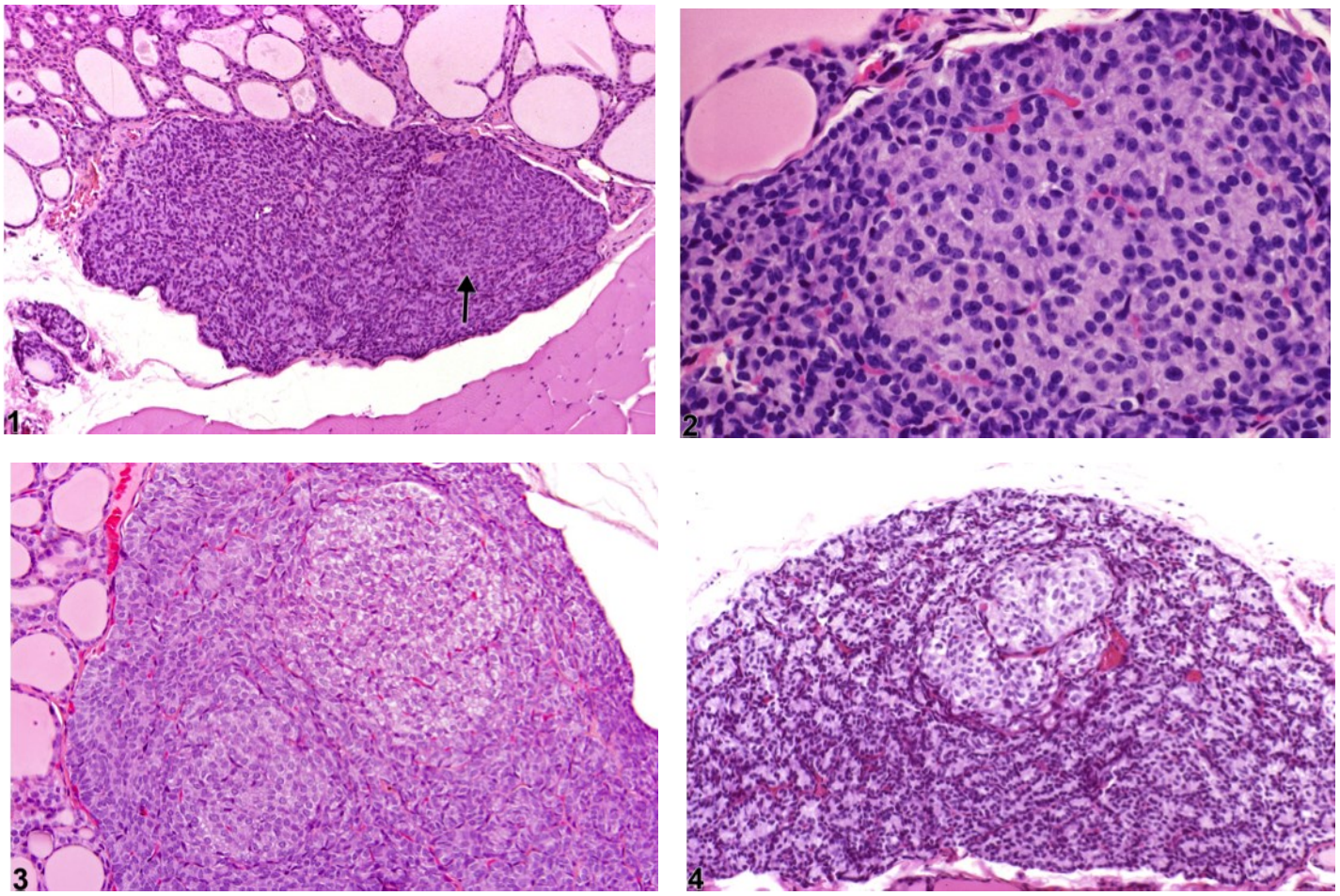
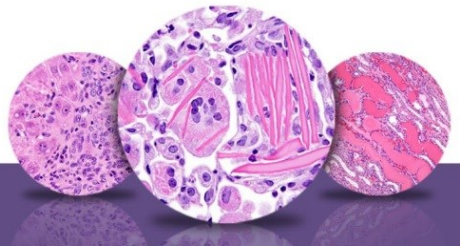


Figure Legend: **Figure 1** Parathyroid Gland - Hyperplasia, Focal in a male F344/N rat from a chronic study. This low-magnification photomicrograph contains a focus of hyperplasia (arrow) with a growth pattern distinct from the adjacent parathyroid parenchyma. **Figure 2** Parathyroid Gland - Hyperplasia, Focal in a male F344/N rat from a chronic study. Focal hyperplasia is characterized by cells with rounded nuclei and abundant hypertrophic cytoplasm but without compression of adjacent parathyroid parenchyma. **Figure 3** Parathyroid Gland - Hyperplasia, Focal in a male Wistar Han rat from a chronic study. Two focal areas of hyperplasia with pale, enlarged cells (compared with surrounding parathyroid parenchyma) are present. **Figure 4** Parathyroid Gland - Hyperplasia, Focal in a male F344/N rat from a chronic study. Two to three adjacent nests of hyperplastic foci are present; the pale staining of their hypertrophic cells makes them stand out from the normal parathyroid tissue.



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Comment: Parathyroid hyperplasia can be focal or diffuse and occurs in low incidence in rats and rarely in mice. Focal hyperplasia is a combination of hyperplasia and hypertrophy, with the hyperplastic foci standing out from the normal parathyroid parenchyma by virtue of structural alteration of the normal cords and/or differential tinctorial staining of the enlarged hypertrophic cells comprising the focal hyperplasia. There is negligible compression of surrounding parenchyma; in contrast, parathyroid adenomas cause compression of adjacent tissue and tend to be larger than hyperplasias. Severe focal hyperplasia can result in a grossly enlarged parathyroid. Focal parathyroid hyperplasia is potentially preneoplastic.

Recommendation: Focal parathyroid hyperplasia should be diagnosed and assigned a severity grade. If both parathyroids are involved, the diagnosis should be qualified as bilateral and the severity grade based on the more severely affect gland.

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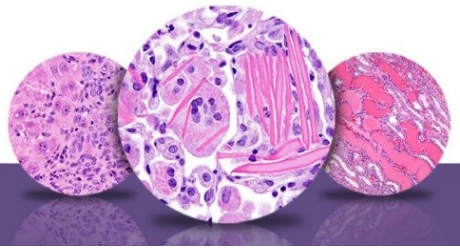

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