



NTP Nonneoplastic Lesion Atlas

Thyroid Gland, C cell – Hyperplasia

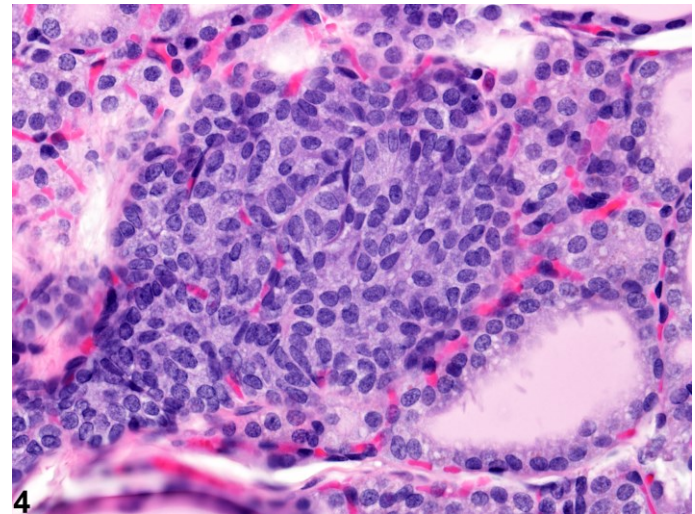
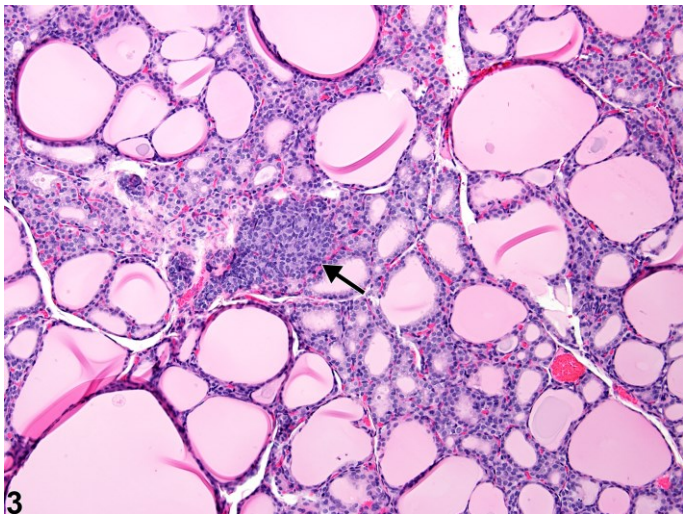
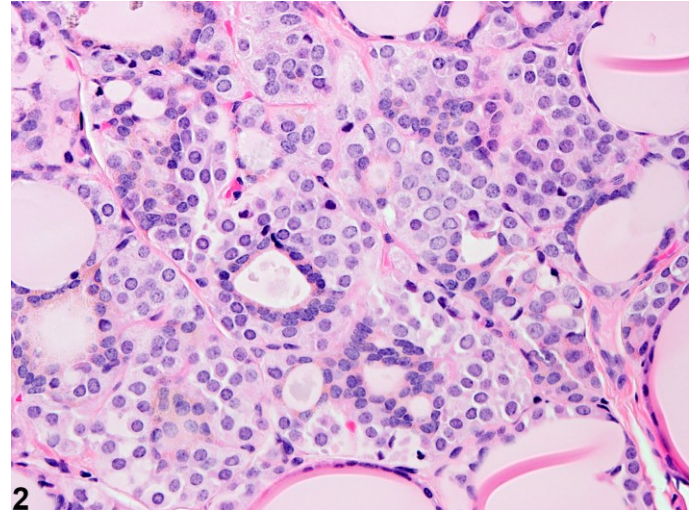
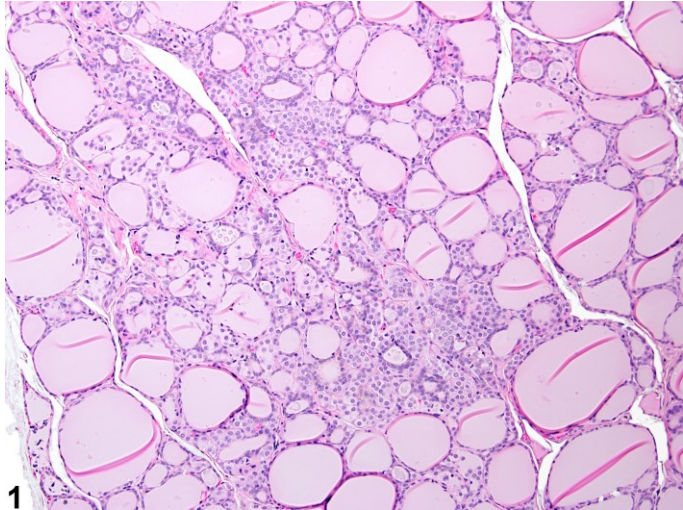
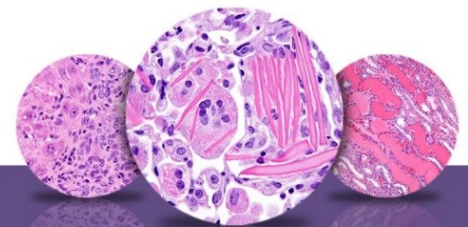


Figure Legend: **Figure 1** Thyroid gland, C cell - Hyperplasia in a treated female F344 rat from a chronic study. Aggregates and small nests of C cells have replaced follicles in this thyroid gland. **Figure 2** Thyroid gland, C cell - Hyperplasia in a treated female F344 rat from a chronic study. Higher magnification of Figure 1 shows the contiguous nests of C cells surrounding small follicles. **Figure 3** Thyroid gland, C cell - Hyperplasia in a control male F344 rat from a chronic study. A focal proliferation of C cells is present in this thyroid gland (arrow). **Figure 4** Thyroid gland, C cell - Hyperplasia in a control male F344 rat from a chronic study. Higher magnification of Figure 3 shows illustrates the high nuclear-to-cytoplasmic ratio in this focal proliferation of C cells.



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Comment: C-cell hyperplasia is a common finding in chronic rat studies and can be diffuse (Figure 1 and Figure 2), focal (Figure 3 and Figure 4), or multifocal. C-cell hyperplasia is distinguished from C-cell adenoma based on the size of any given focal proliferation. The generally accepted criteria for C-cell hyperplasia is a focal C-cell cluster less than five average follicular diameters or similarly small-sized clusters of C cells scattered in interfollicular spaces. In contrast to C-cell adenomas, C-cell hyperplasia is not associated with significant compression of adjacent parenchyma. C-cell hyperplasias may contain individual trapped follicles (Figure 1 and Figure 2). C-cell hyperplasia generally consists of round to polyhedral cells with abundant eosinophilic cytoplasm (Figure 2); in some cases there is a higher than typical nuclear-to-cytoplasmic ratio (Figure 4).

Recommendation: C-cell hyperplasia should be diagnosed when present, given a severity grade. If bilateral it should be indicated in the diagnosis with a severity grade based on the more severely affected thyroid gland.

References:

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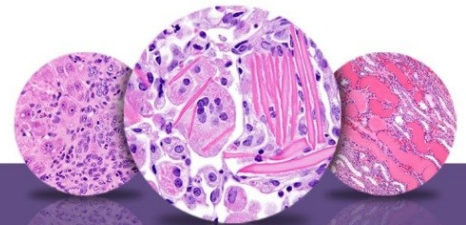
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