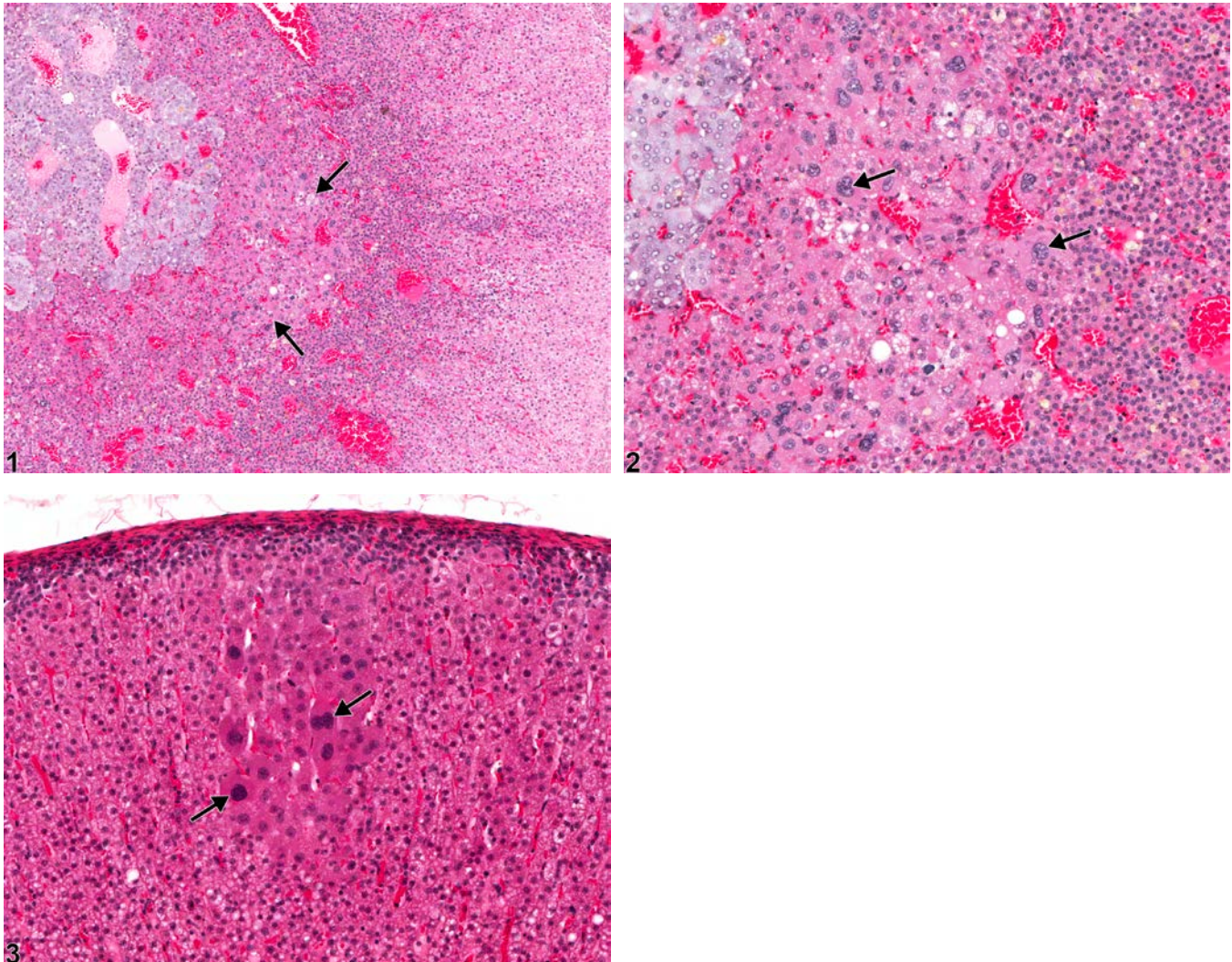


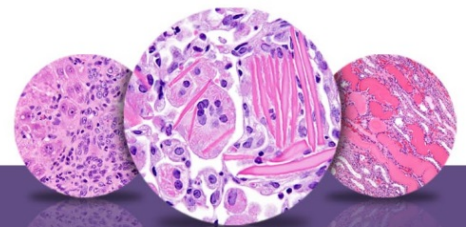
# NTP Nonneoplastic Lesion Atlas

## Adrenal Gland, Cortex – Cellular Atypia



**Figure Legend:** **Figure 1** Adrenal gland, Cortex - Cellular atypia in a female F344/N rat from a chronic study. There is a focal area in the inner cortex (arrows) with scattered cells with enlarged, pleomorphic, irregular nuclei. **Figure 2** Adrenal gland, Cortex - Cellular atypia in a female F344/N rat from a chronic study (higher magnification of Figure 1). Enlarged cortical cells (arrows) have large, pleomorphic, irregular nuclei. **Figure 3** Adrenal gland, Cortex - Cellular atypia in a male F344/N rat from a chronic study. There is a focus of enlarged cells with large, pleomorphic nuclei (arrows).

**Comment:** Atypia of adrenocortical cells (Figure 1, Figure 2, and Figure 3) is an uncommon finding in rats and mice. It is characterized by hypertrophic cortical cells that, in addition to expanded cytoplasmic



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volume, also have nuclei with pleomorphism, hyperchromasia, irregular shape, and other atypical features. There may be a few cells within a region of cortical hypertrophy that have irregular nuclei, but the diagnosis of cellular atypia in the adrenal cortex is reserved for those lesions in which a large proportion of the cells are atypical. The pathologist must use his or her judgment in deciding whether the number of atypical cells is large enough to warrant a diagnosis of cellular atypia. Atypical cells can also be found in foci of cortical hyperplasia.

Foci of atypical adrenocortical cells must be differentiated from adrenocortical adenomas. Adenomas typically cause compression of adjacent tissue, and there is loss of the normal radial arrangement of the cords; these features are not present in foci of cellular atypia.

**Recommendation:** Adrenal gland, Cortex – Cellular atypia should be diagnosed and assigned a severity grade. The diagnosis should be used in cases where a large proportion of the cells in a hypertrophic focus also have nuclei that exhibit features of atypia as described above. In such cases, only the diagnosis of “Cellular atypia” (and not “Hypertrophy”) should be recorded. When the number of atypical cells in a focus of hypertrophy does not warrant a diagnosis of atypia (the pathologist must use his or her judgment to determine if this is the case), then hypertrophy should be diagnosed and the few scattered atypical cells described in the narrative. In cases where atypical cells occur in a significant number of cells in an area of cortical hyperplasia, the diagnosis should be “Hyperplasia, Atypical” (see Adrenal gland - Hyperplasia). If cellular atypia is seen in both adrenal glands, the modifier “bilateral” should be added to the diagnosis (lesions are assumed to be unilateral unless otherwise indicated).

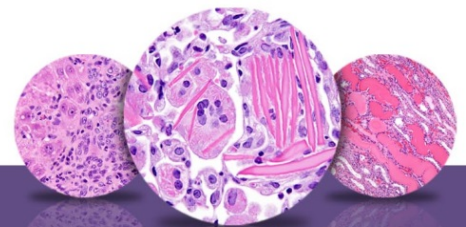
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Abstract: <http://ntp.niehs.nih.gov/go/12227>

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# NTP Nonneoplastic Lesion Atlas

## *Adrenal Gland, Cortex – Cellular Atypia*

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