



NTP Nonneoplastic Lesion Atlas

Prostate, Acinus – Atrophy

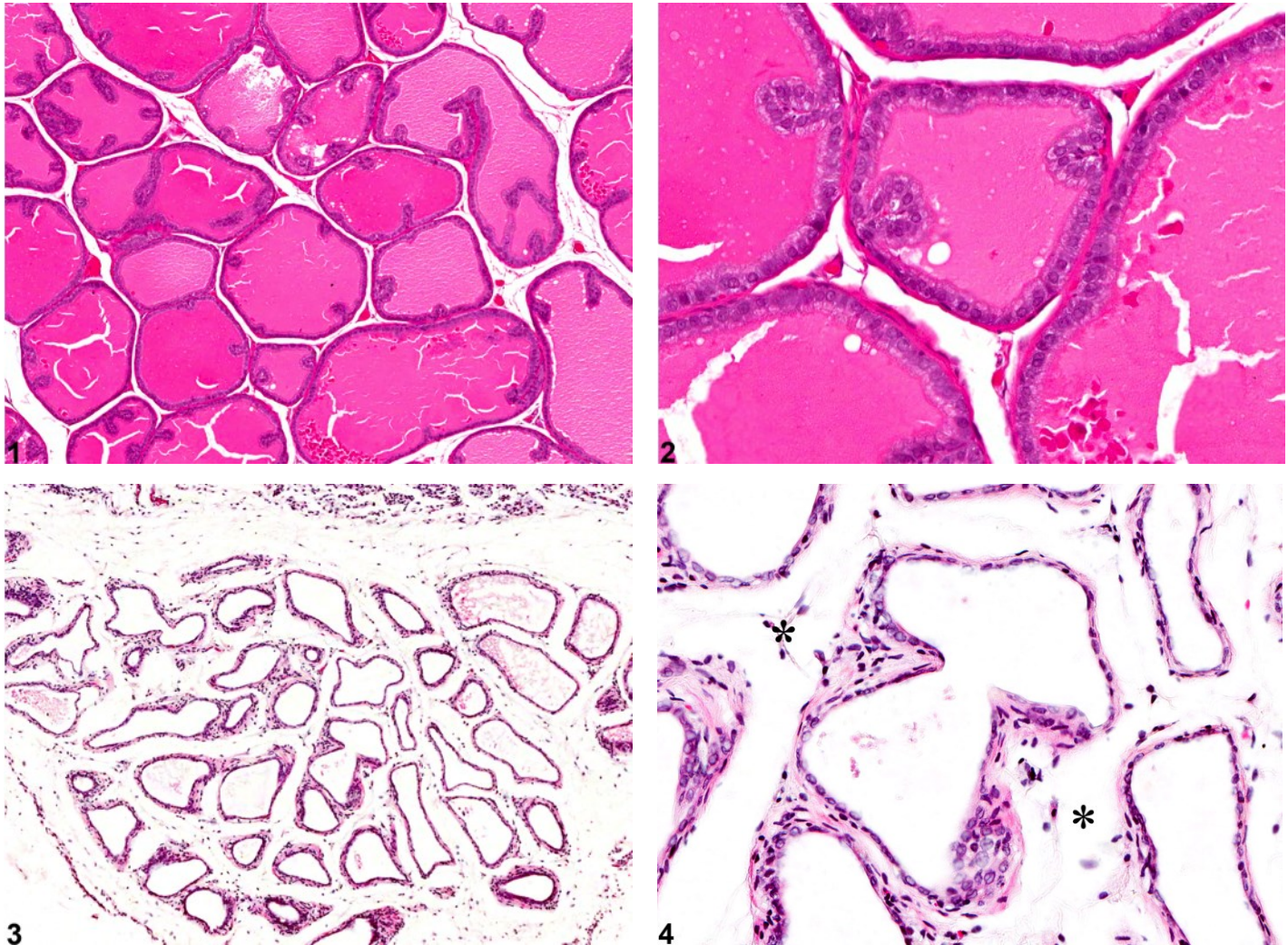
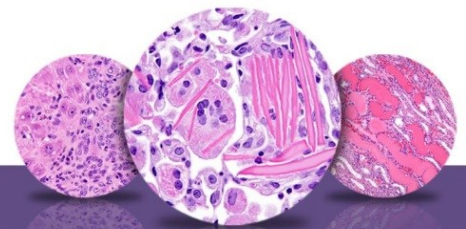


Figure Legend: **Figure 1** Prostate - Normal. Normal dorsolateral prostate for comparison with Figure 3 in a male F344/N rat from a subchronic study. **Figure 2** Prostate - Normal. Higher magnification of Figure 1. Normal dorsolateral prostate for comparison with Figure 4 in a male F344/N rat from a subchronic study. **Figure 3** Prostate, Acinus - Atrophy. Decreased acinar size and absence of secretion are evident in this prostate in a male F344/N rat from a subchronic study. **Figure 4** Prostate, Acinus - Atrophy. Higher magnification of Figure 3. Acinar epithelium is markedly flattened (atrophic), there is absence of luminal secretion, and asterisks indicate increased stromal prominence in a male F344/N rat from a subchronic study.



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Comment: Prostatic atrophy represents glandular shrinkage and is microscopically characterized by reduction in the size of acini, attenuation of lining epithelial cells, scanty secretory material, and increased stromal prominence (asterisks, Figure 4). Figure 1 and Figure 2 represent the dorsolateral lobe of normal prostate for comparison. In general, atrophy involves all lobes of the prostate. Inhibition of gonadal steroid and pituitary hormones results in atrophy of testes and accessory sex organs, including prostate. Inhibitors of 5 α -reductases, enzymes involved in intraprostatic conversion of testosterone to its biologically active form dihydrotestosterone, such as finasteride and epristeride, are known to induce atrophy of prostate. Similarly, antiandrogenic substances such as hydroxyflutamide cause prostatic atrophy.

Estrogens decrease the volume of the glandular epithelium and increase the fibromuscular stroma in both ventral prostate and seminal vesicle. Deficiency of the Egr family of zinc finger transcription factors such as Egr4 and Egr1, as in *Egr4-Egr1* double-mutant mice, leads to atrophy of prostate, testis, epididymis, and seminal vesicle. Spontaneous prostatic atrophy is an age-related lesion.

Recommendation: Prostatic atrophy should be diagnosed and graded, and treatment-associated exacerbation should be indicated in the pathology narrative. The affected lobe(s) should be identified if possible and indicated in the tissue identification (e.g., prostate, dorsolateral lobe, acinus - atrophy, severe). When known, bilateral involvement should be indicated and the severity grade determined by the more severely affected lobe.

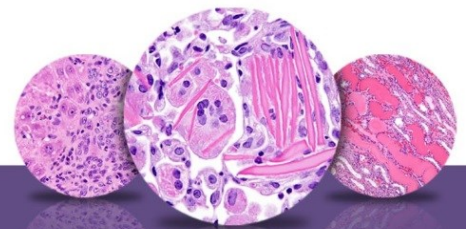
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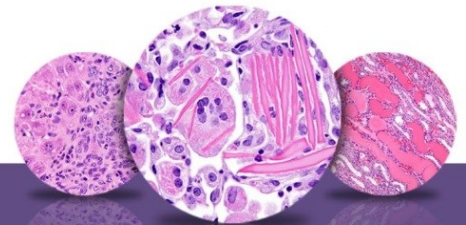
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