



Tikrit University
College of Veterinary Medicine

Cellular adaption

Subject name: Practical Pathology

Subject year: 2024-2025

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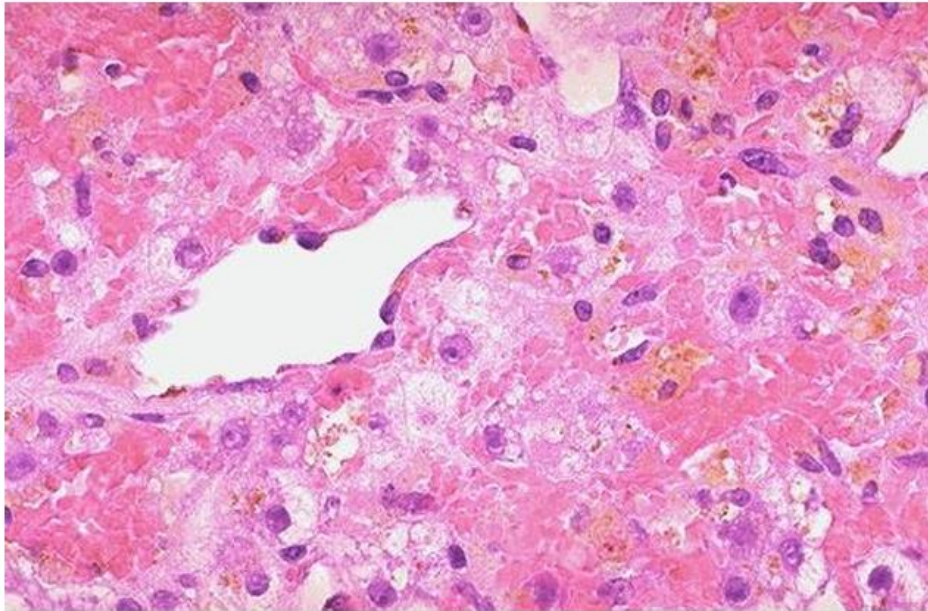
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Lecturers link

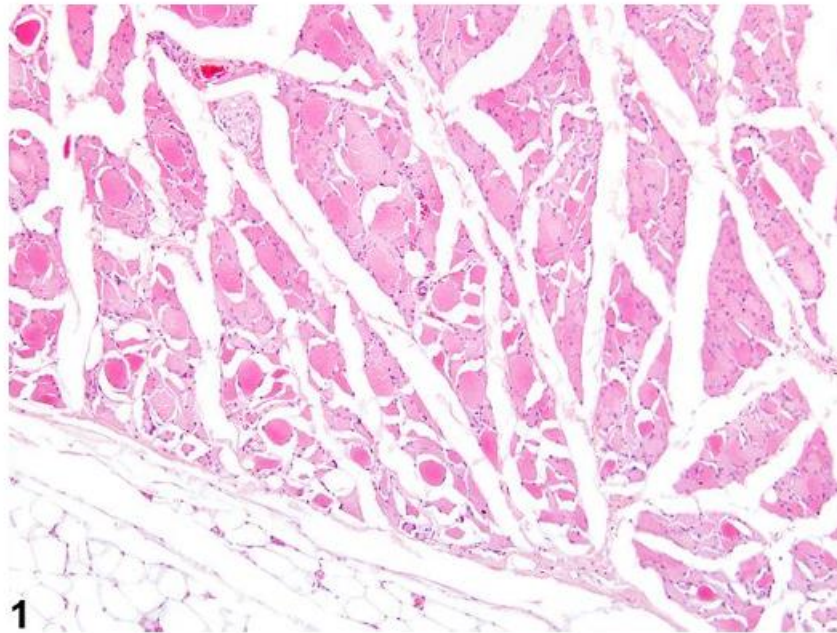
Organ: Kidney

Lesion: The histopathological examination of shows, cells undergoing atrophy are smaller than normal, and fewer in number, or may have entirely disappeared. atrophy is also accompanied by marked increase in the number of 'autophagic vacuoles' containing cell debris. Fat and connective tissue cells are more.

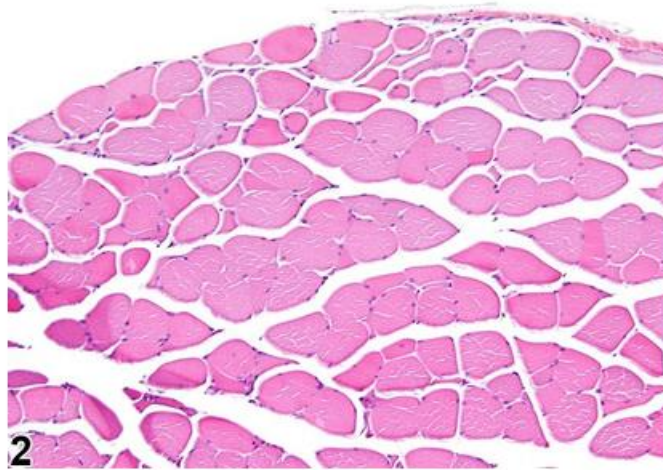
Diagnosis: Atrophy



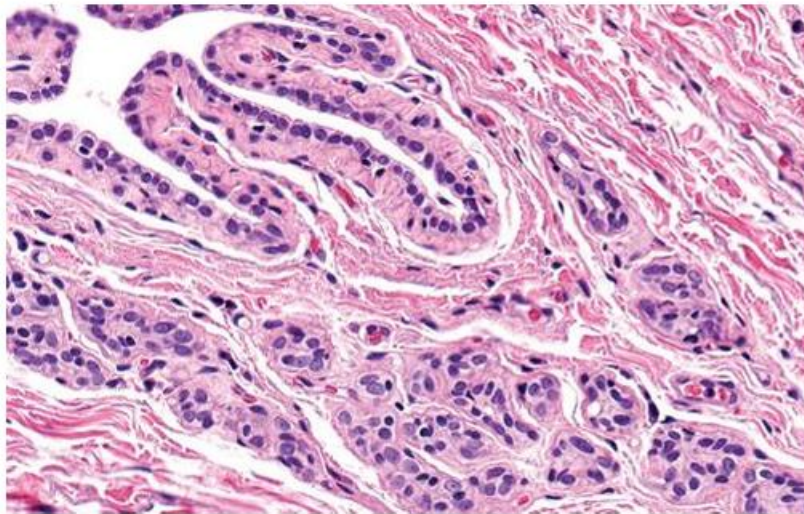
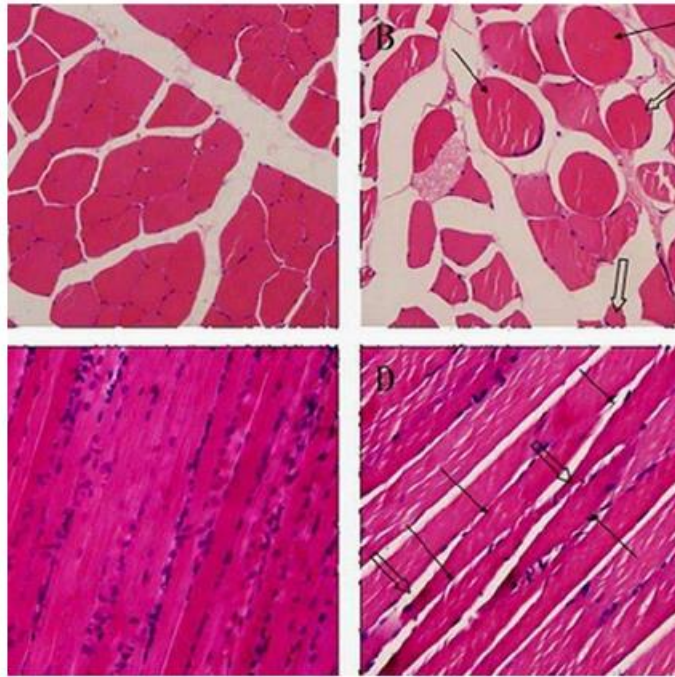
The cells have reduced in size or been lost from hypoxia. The pale brown-yellow pigment is lipochrome (lipofuscin) that has accumulated as the atrophic and dying cells undergo autophagocytosis.



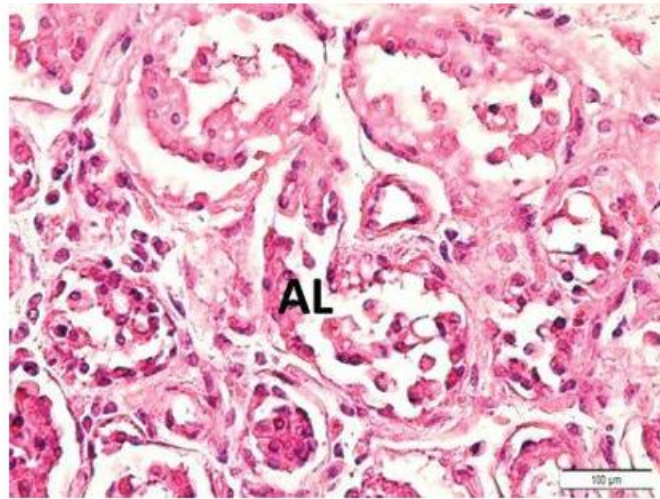
muscle - Atrophy in a male rat from a chronic study. Individual hypereosinophilic muscle fibers of reduced diameter are sometimes surrounded by clear spaces. show a gathering circular or elliptical shape with different sizes.



Skeletal muscle - Atrophy in a male mouse from a subchronic study. Note the reduction in myofiber diameter of the affected fibers (top) compared with the more normal myofibers along the bottom. show a gathering circular or elliptical shape with different sizes

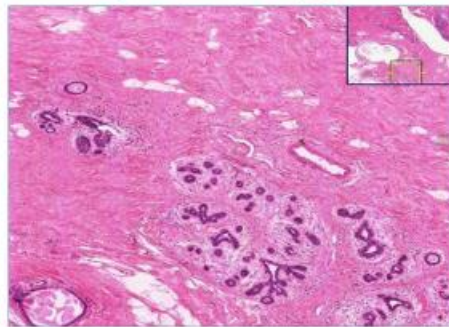


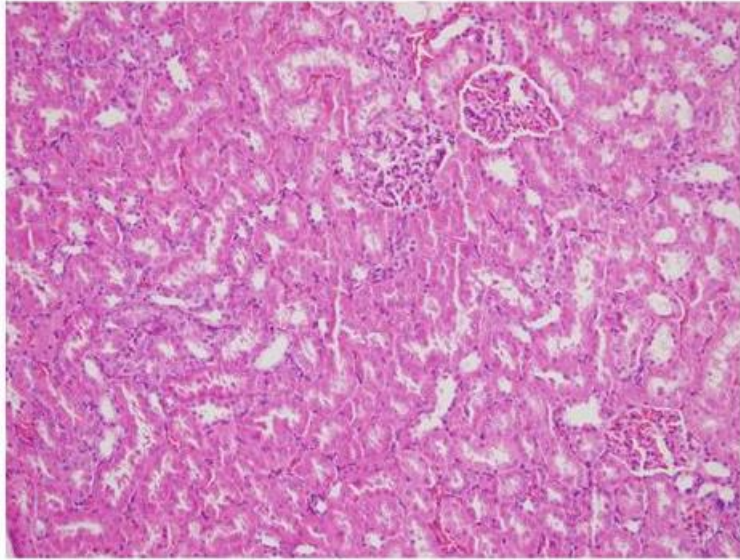
Mammary atrophy in a spayed dog



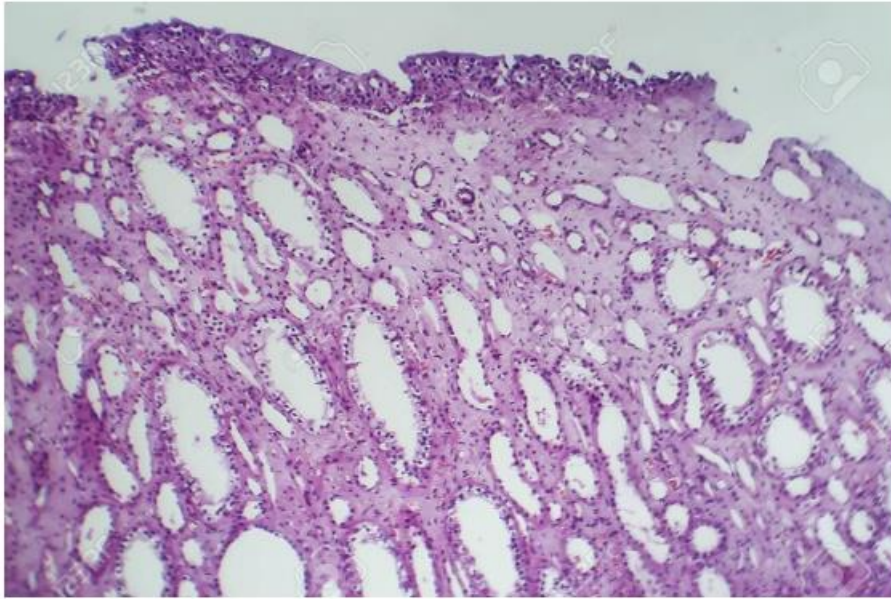
Histopathological appearance of a mammary gland and atrophic lactation follicles (AL) as seen in magnified form in an OBL applied animal.

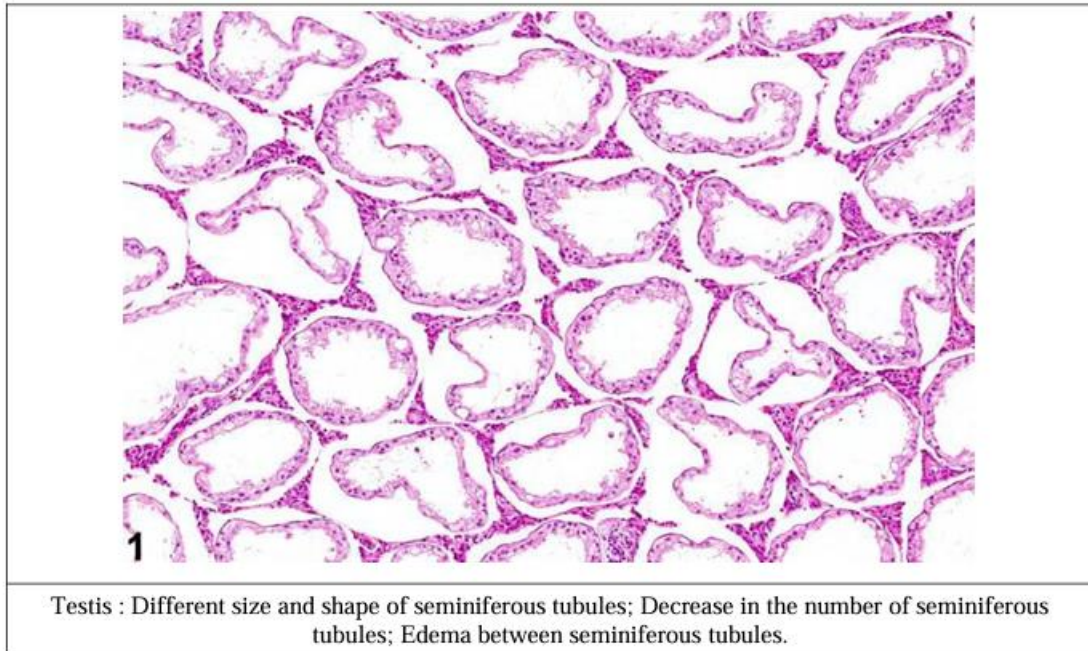
Atrophic mammary gland





Renal tubular atrophy and diffuse intertubular fibrosis in the radiation therapy group

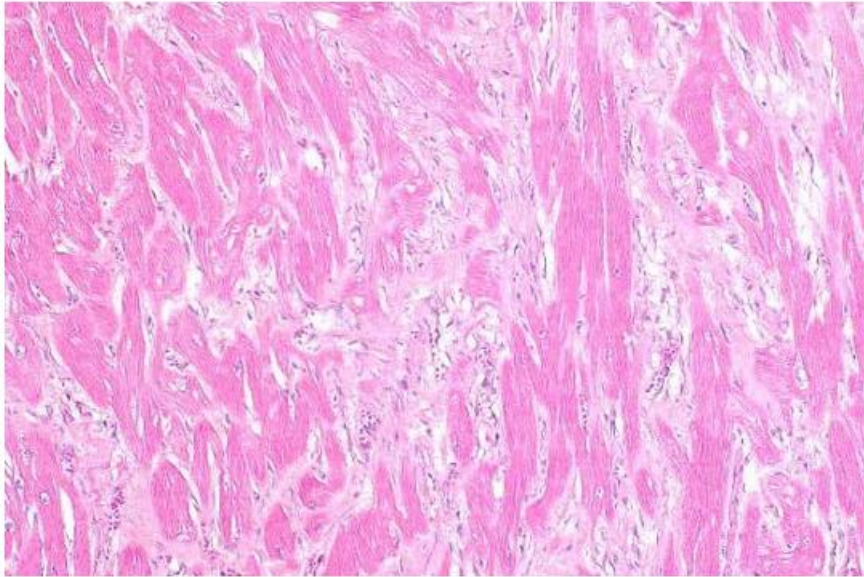




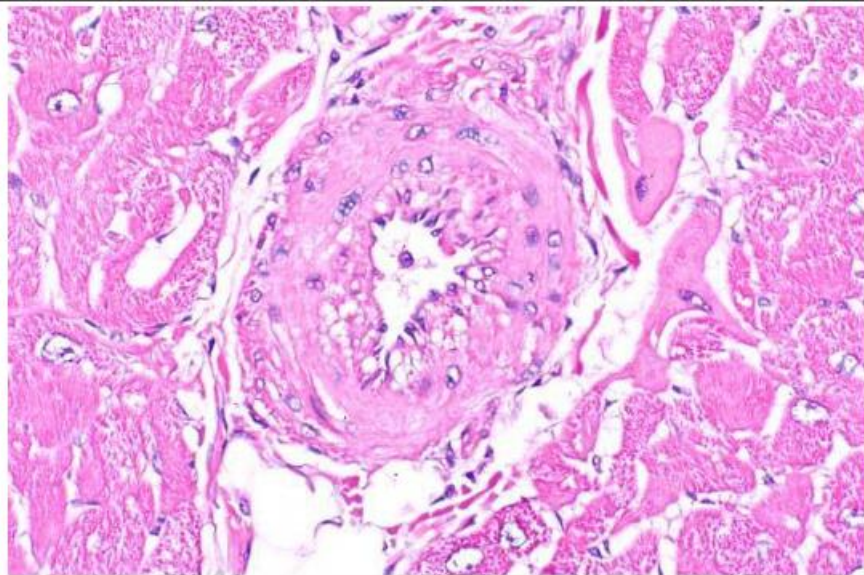
Organ: Heart Muscle

Lesion: The histopathological examination of shows, increase in the size of cells because of an increase in size or number of organelles, and therefore there are fewer cells in each microscopic field. The Cardiomyocytes are irregularly arranged and enlarged with abundant eosinophilic cytoplasm and a large vesicular central nucleus.

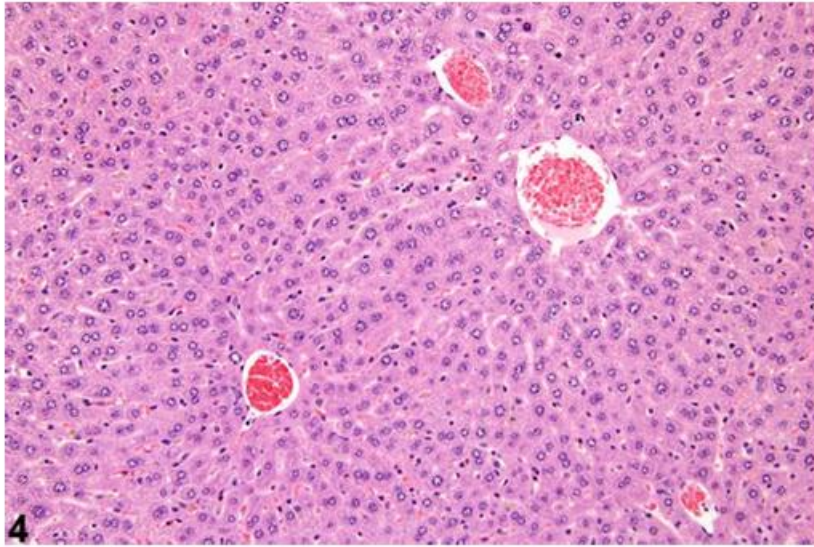
Diagnosis: hypertrophy



Heart muscle: hypertrophy

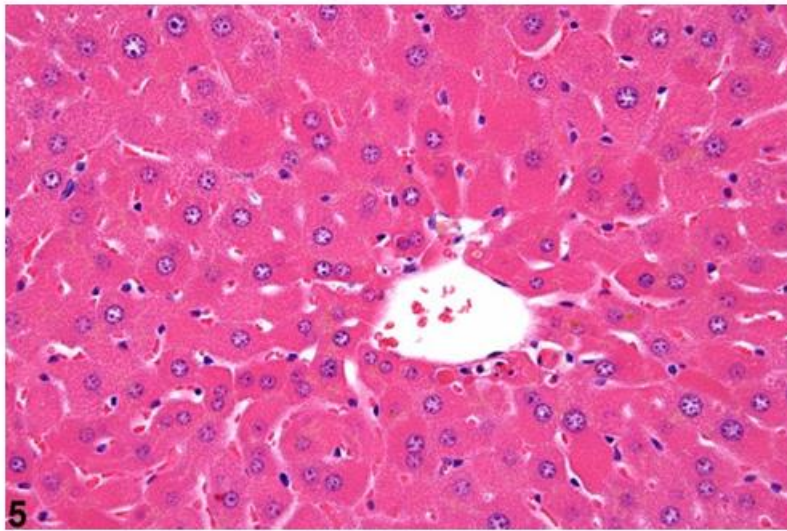


Heart muscle: hypertrophy The tunica media of intramyocardial vessels is expanded by hypertrophic smooth muscle cells

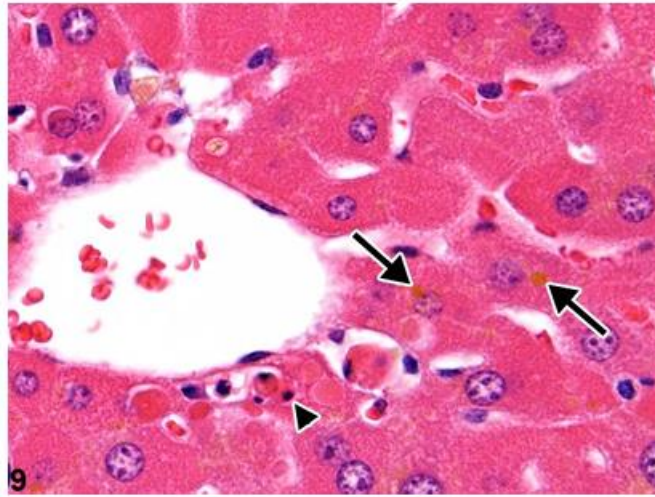


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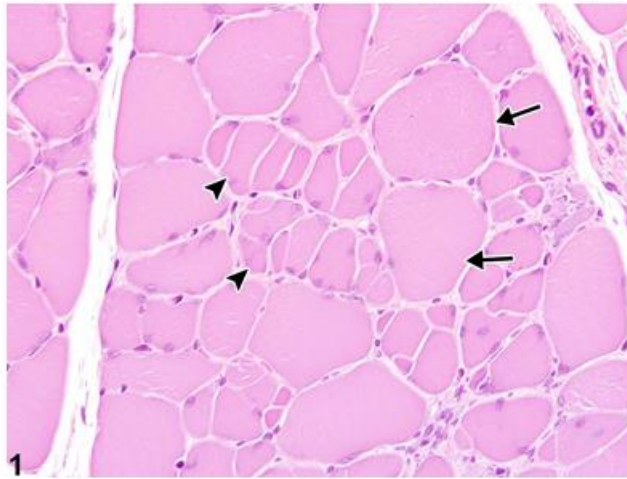
Normal liver in a male mouse



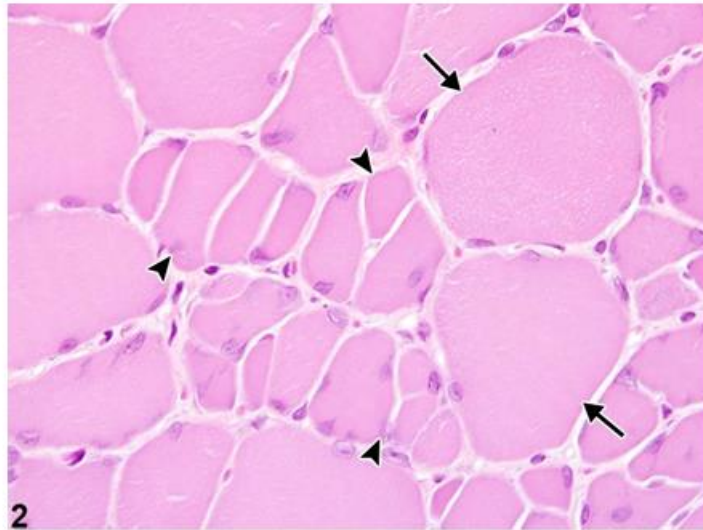
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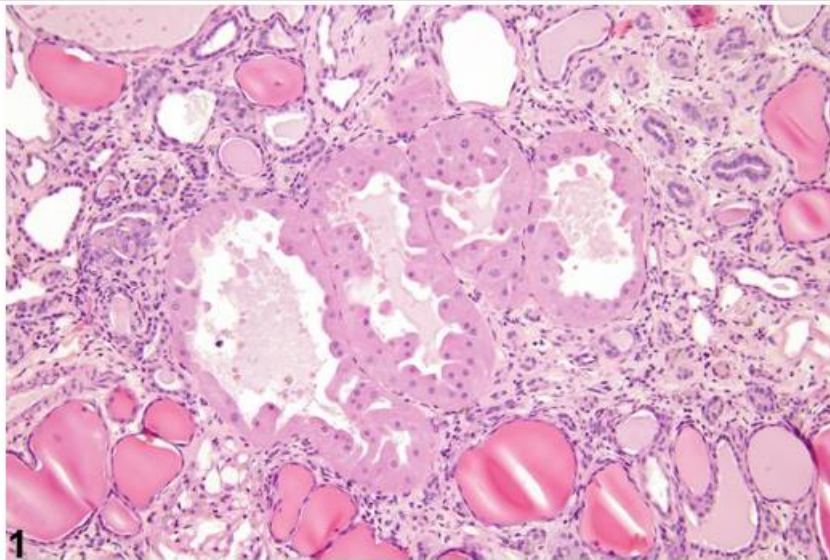
Hepatocyte hypertrophy-arrows indicate retention of bile pigment, and arrowhead indicates apoptotic hepatocytes, in a male mouse from a subchronic study. Enlarge Image



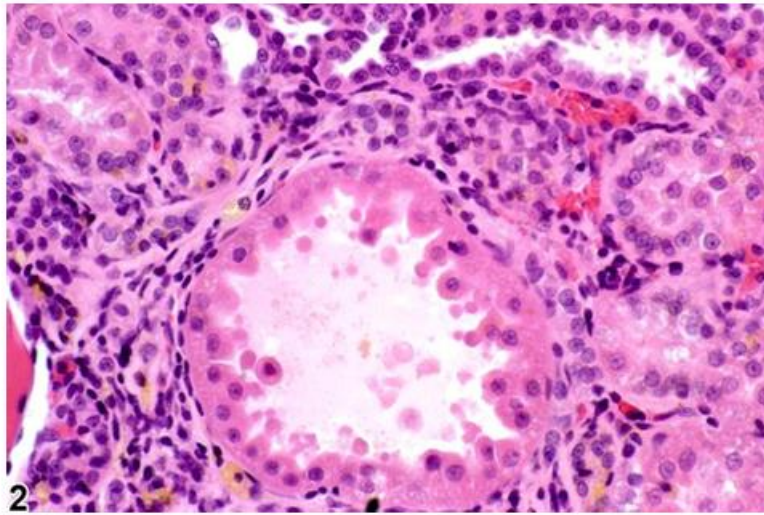
Skeletal muscle – Hypertrophy. Large, hypertrophic fibers (arrows) are adjacent to longitudinally split muscle fibers (arrowheads).



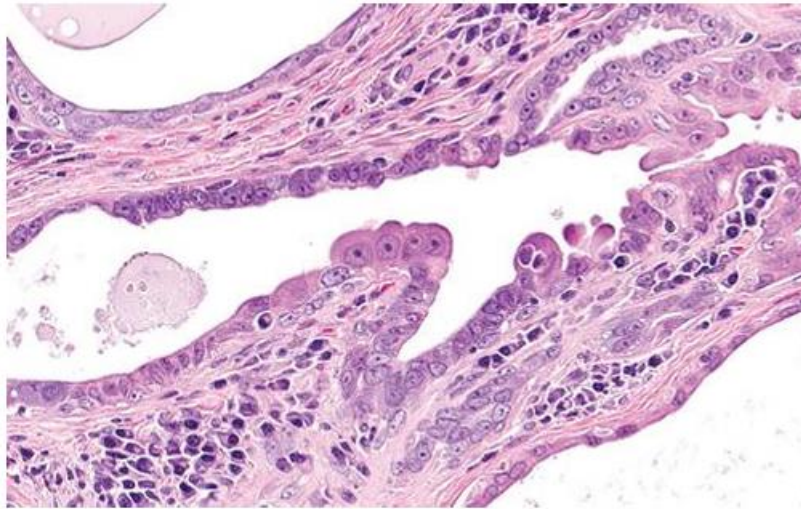
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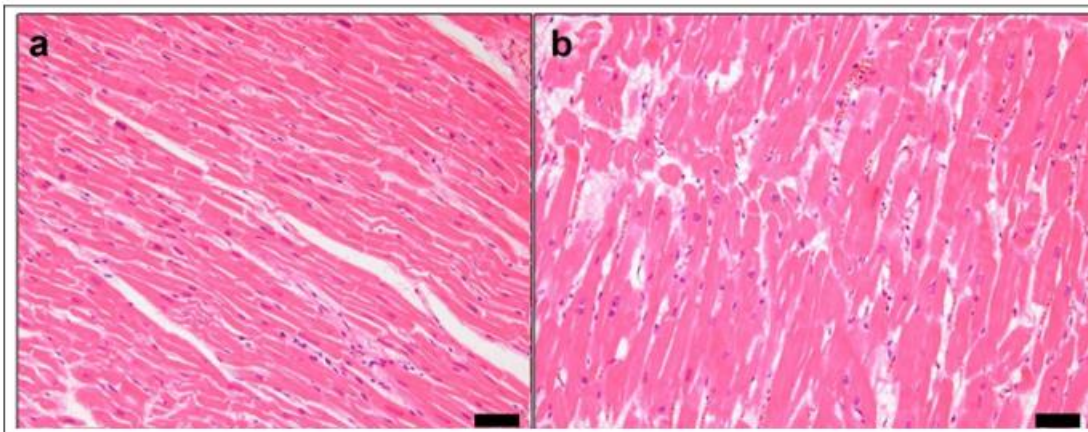
Kidney, Renal tubule - Hypertrophy : These hypertrophied tubular epithelial cells with an increased amount of amorphous, eosinophilic cytoplasm and small, round, dense nuclei are associated with chronic progressive nephropathy.



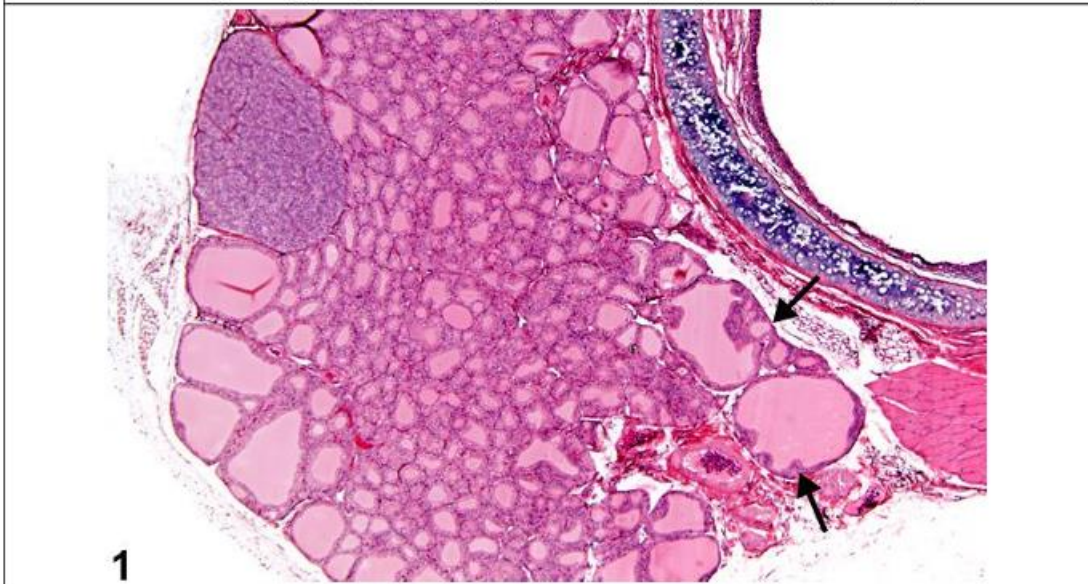
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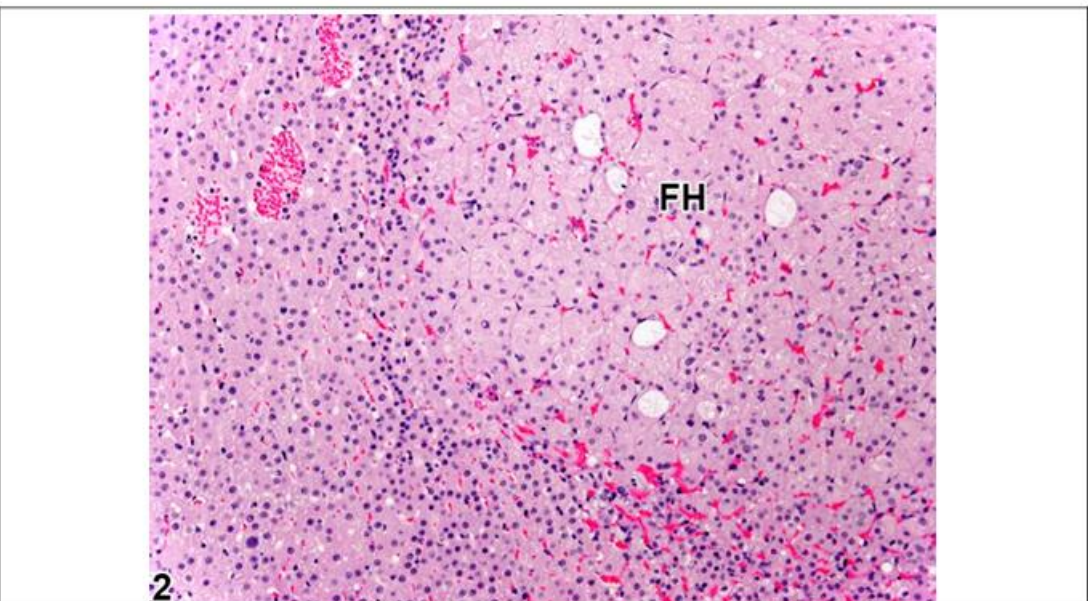
Ductal epithelial hypertrophy



Histopathology of (a) normal myocardium and (b) myocardial hypertrophy.



Thyroid Gland, Follicular Cell - Hypertrophy in a : Focal hyperplasia is present in two adjacent follicles (arrows).

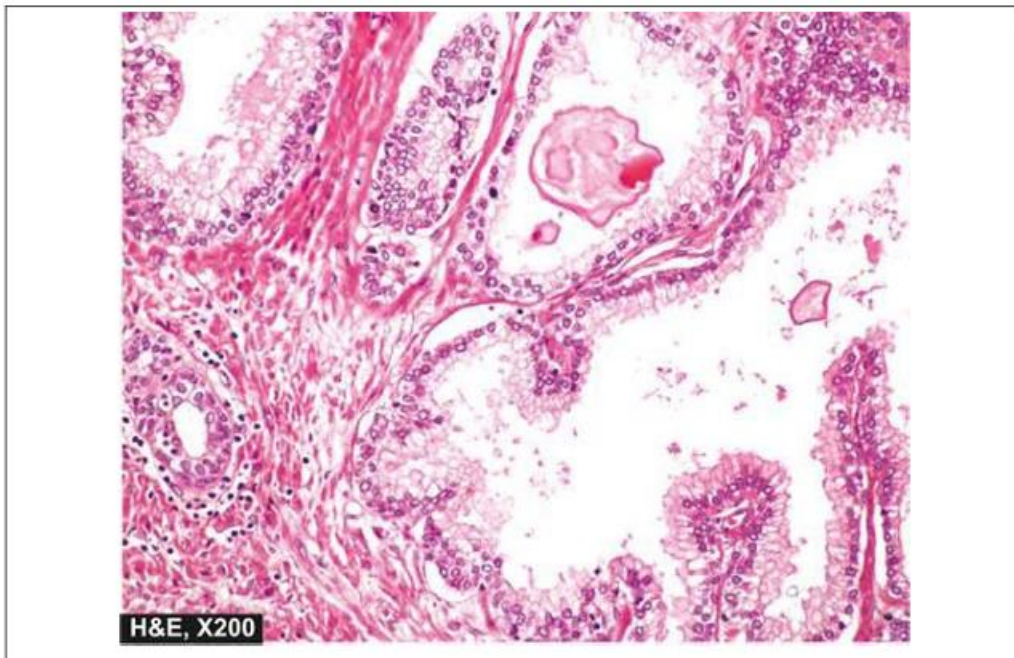


Adrenal gland, Cortex - Hypertrophy : The cells in this focus of hypertrophy (FH) have increased amounts of pale eosinophilic cytoplasm.

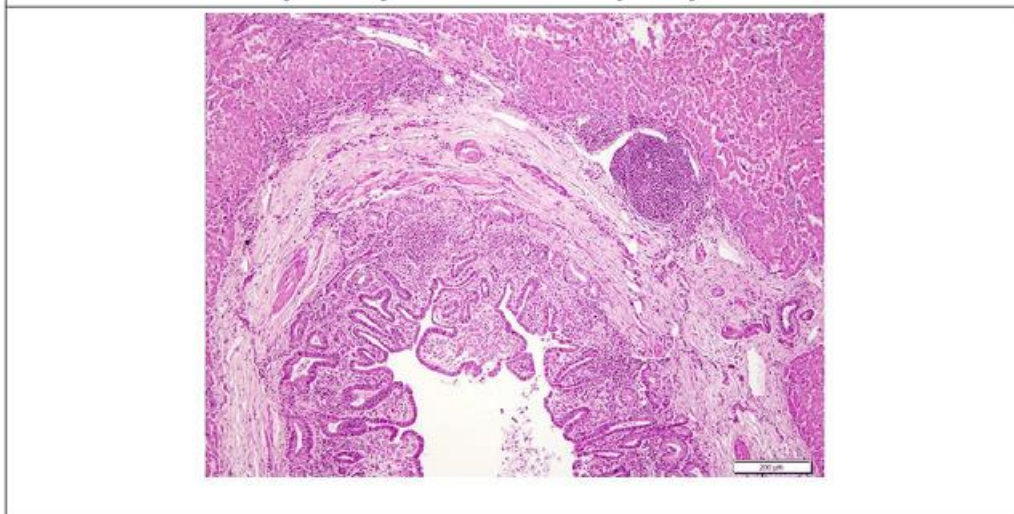
Organ: Connective tissue

Lesion: The histopathological examination of shows, Increased number of cells in tissue or organ, displacement of adjacent tissue, and which appear as finger projection lumen of ducts/ tubules lead to obstructed. Increase mitotic activity of cells in tissue.

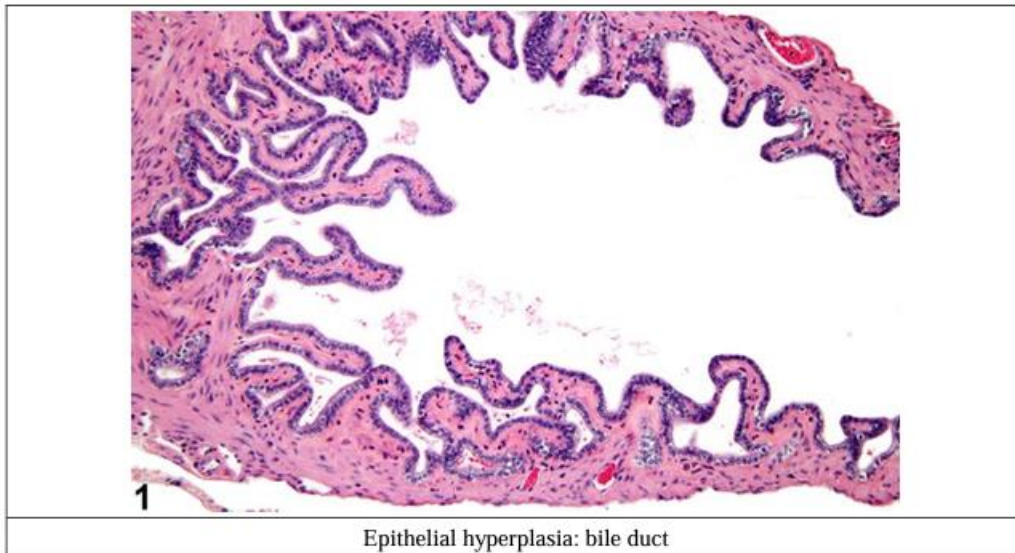
Diagnosis: Hyperplasia



Nodular hyperplasia of the prostate. There is hyperplasia of both fibromuscular elements and epithelium seen as areas of intra-acinar papillary infoldings (convolutions) lined by two layers of epithelium with basal polarity of nuclei.



Liver, bile duct:



Organ: spleen

Lesion: The histopathological examination of shows, brightly proteinaceous accumulations of eosinophilic material when stain with H&E around splenic artery or capsule.

Diagnosis: Hyaline degeneration of splenic

