

Disturbances of Growth Cell Adaptation

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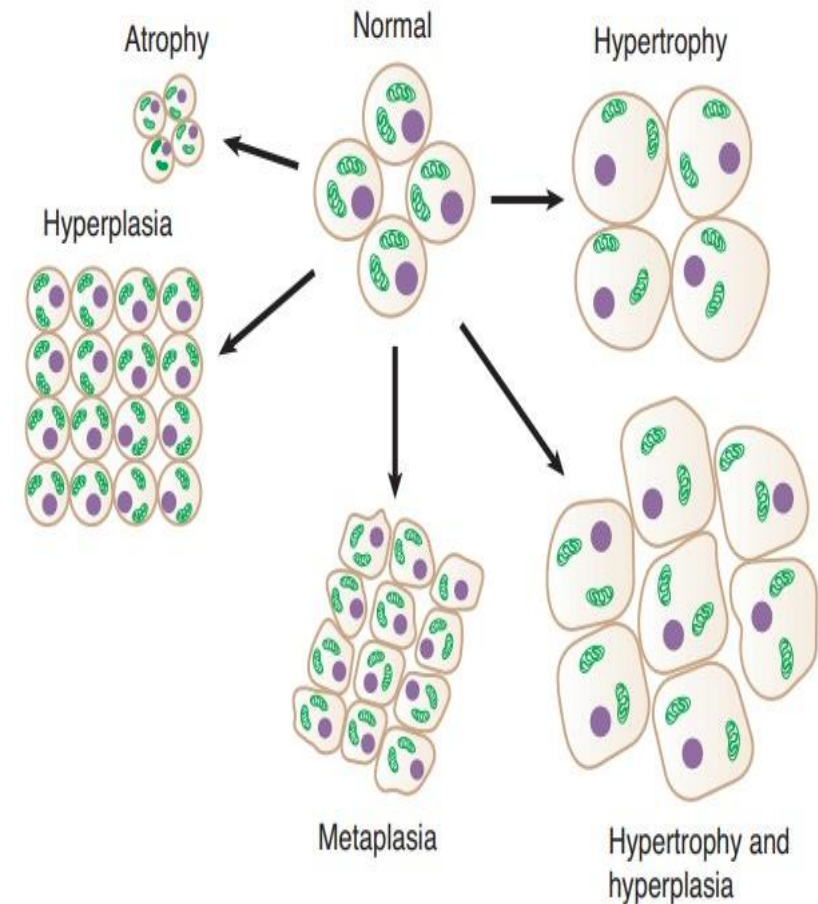
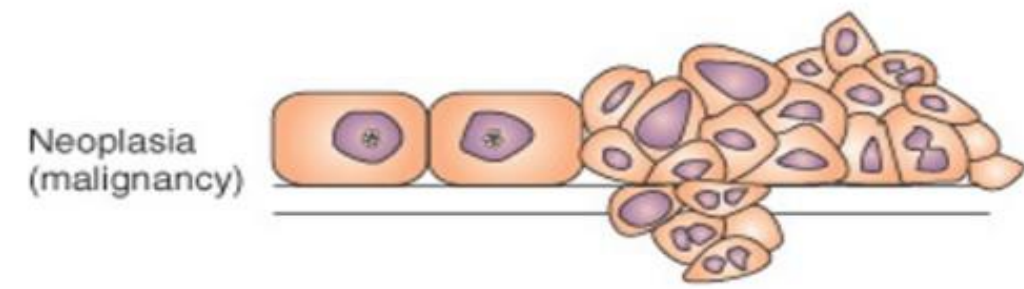
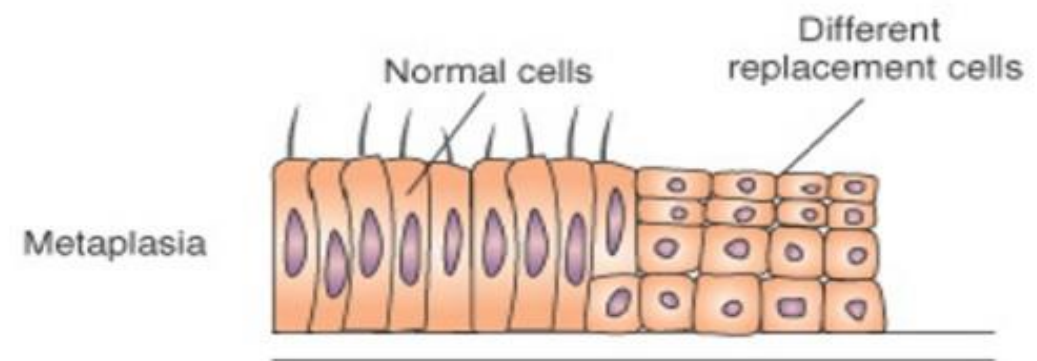
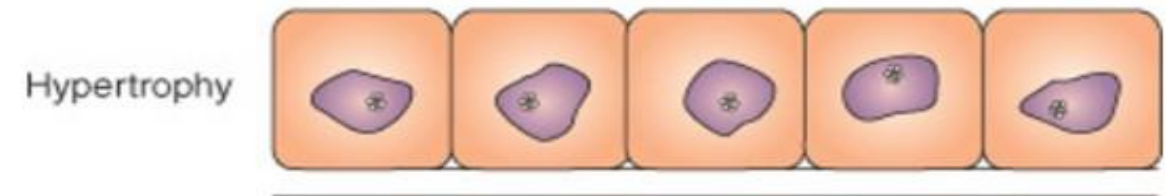
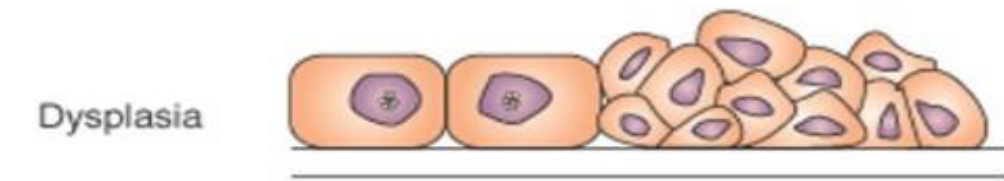
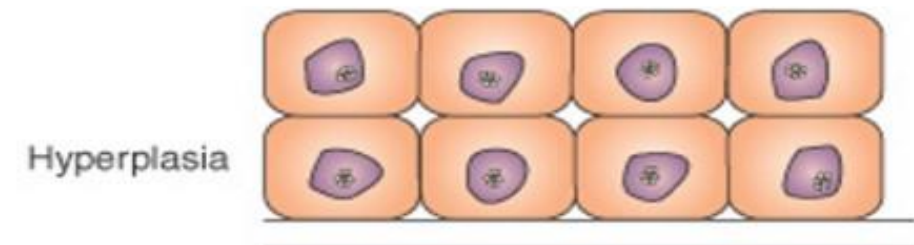
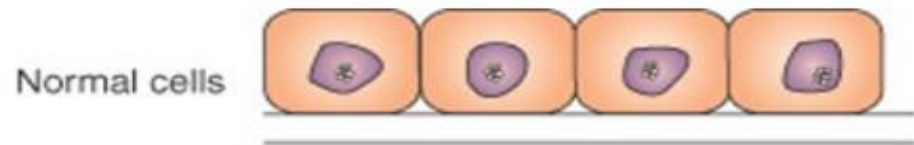
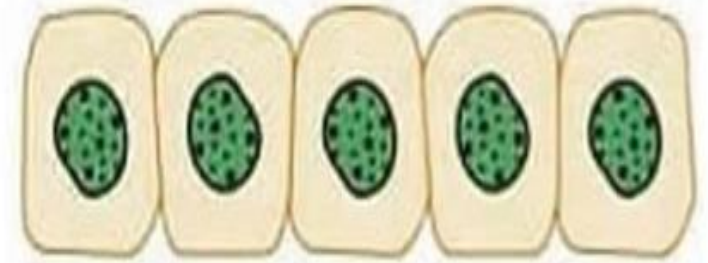


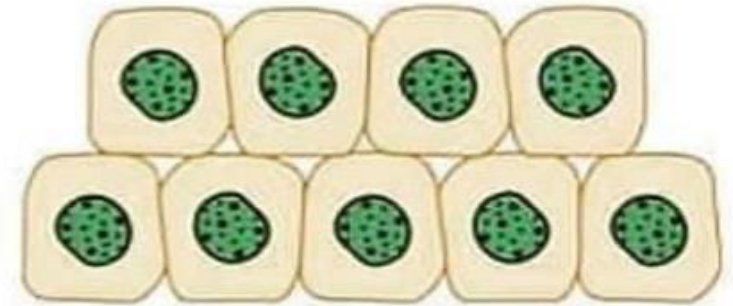
Figure 2-7. Cellular Adaptive Responses to Cell Injury



Hyperplasia



Normal



Hyperplasia
(increased cell number)

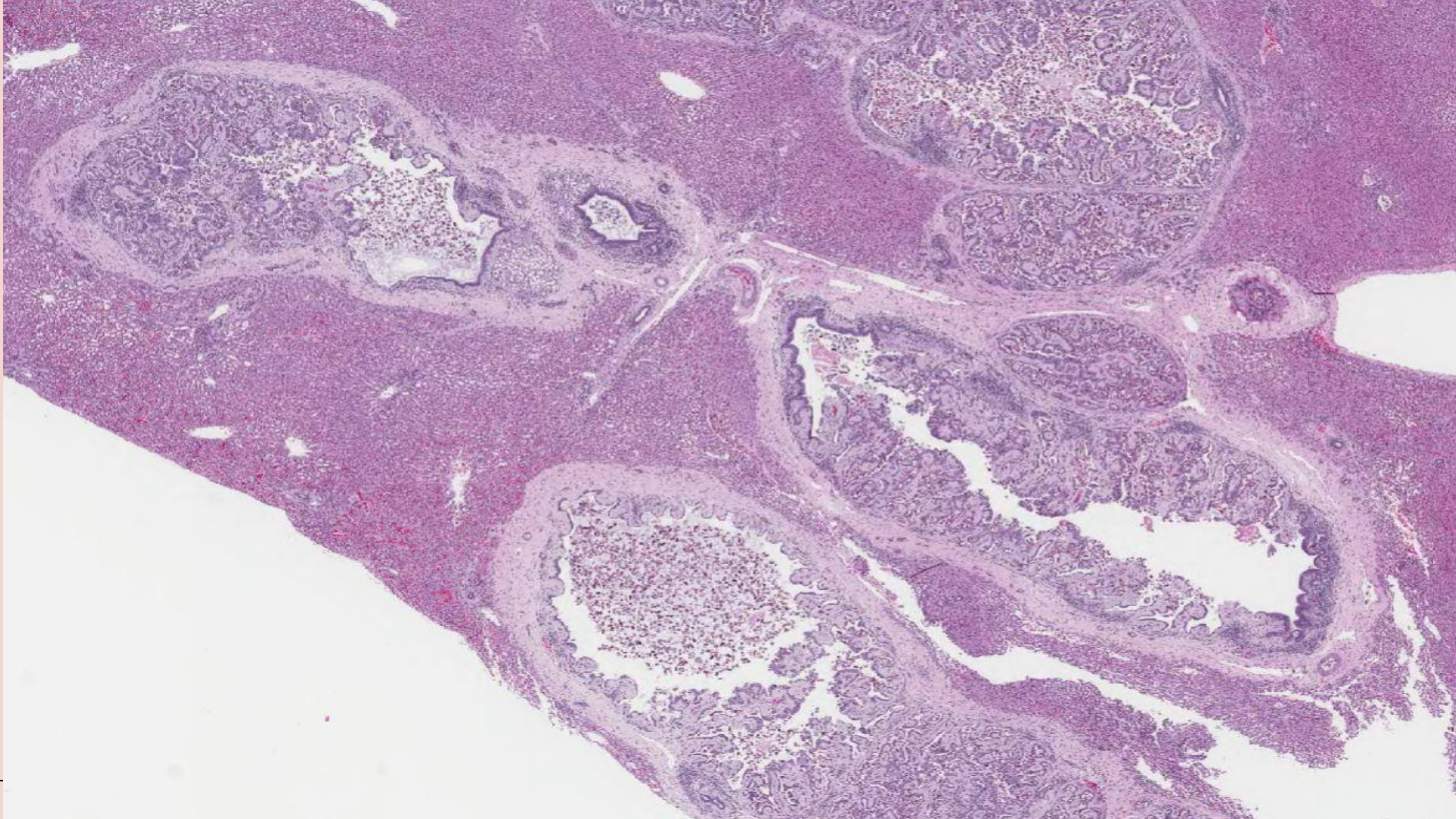
Diagnosis: Hyperplasia (Coccidiosis in rabbit).

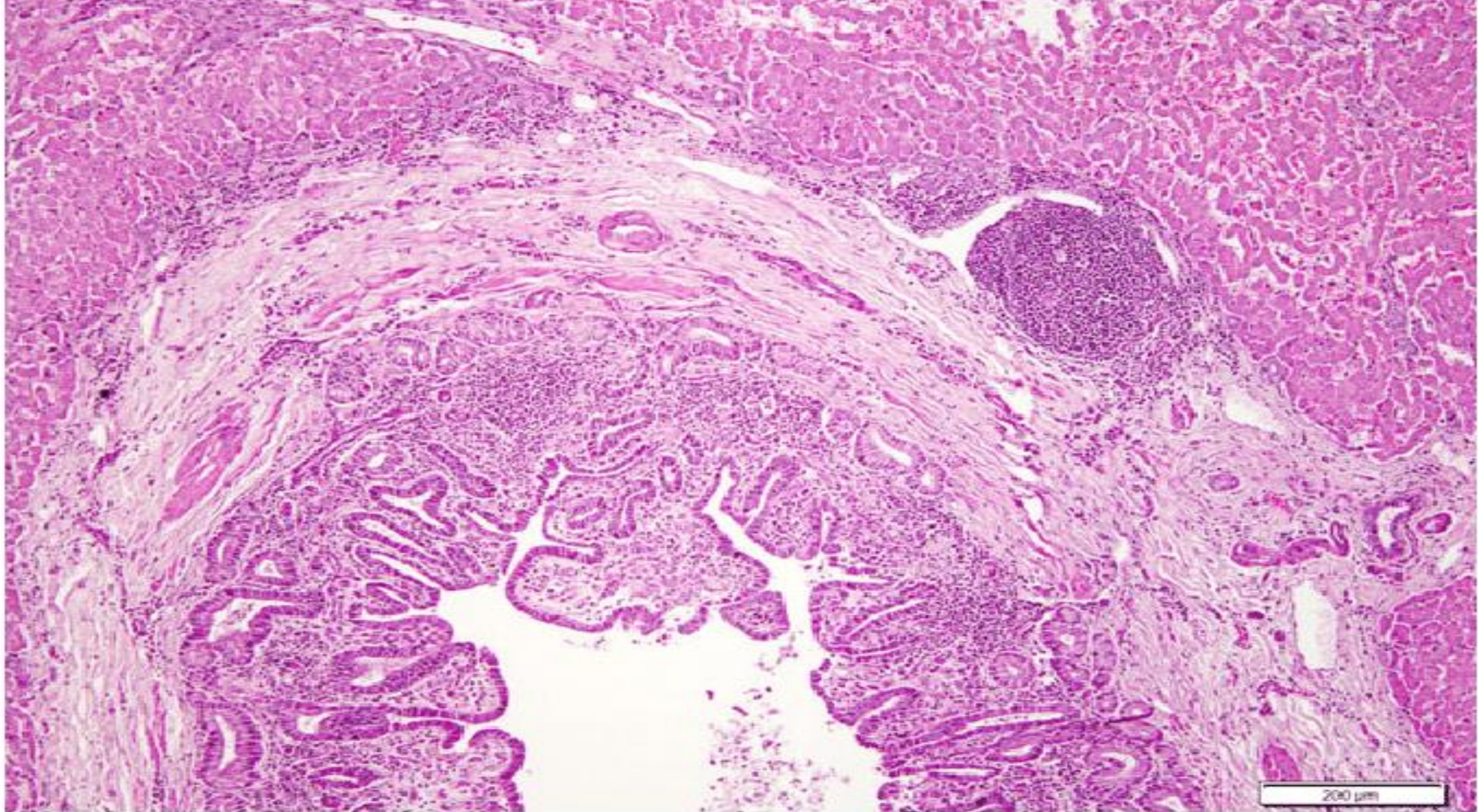
Organ: Liver, bile duct.

Stain: hematoxylin and eosin (H&E)

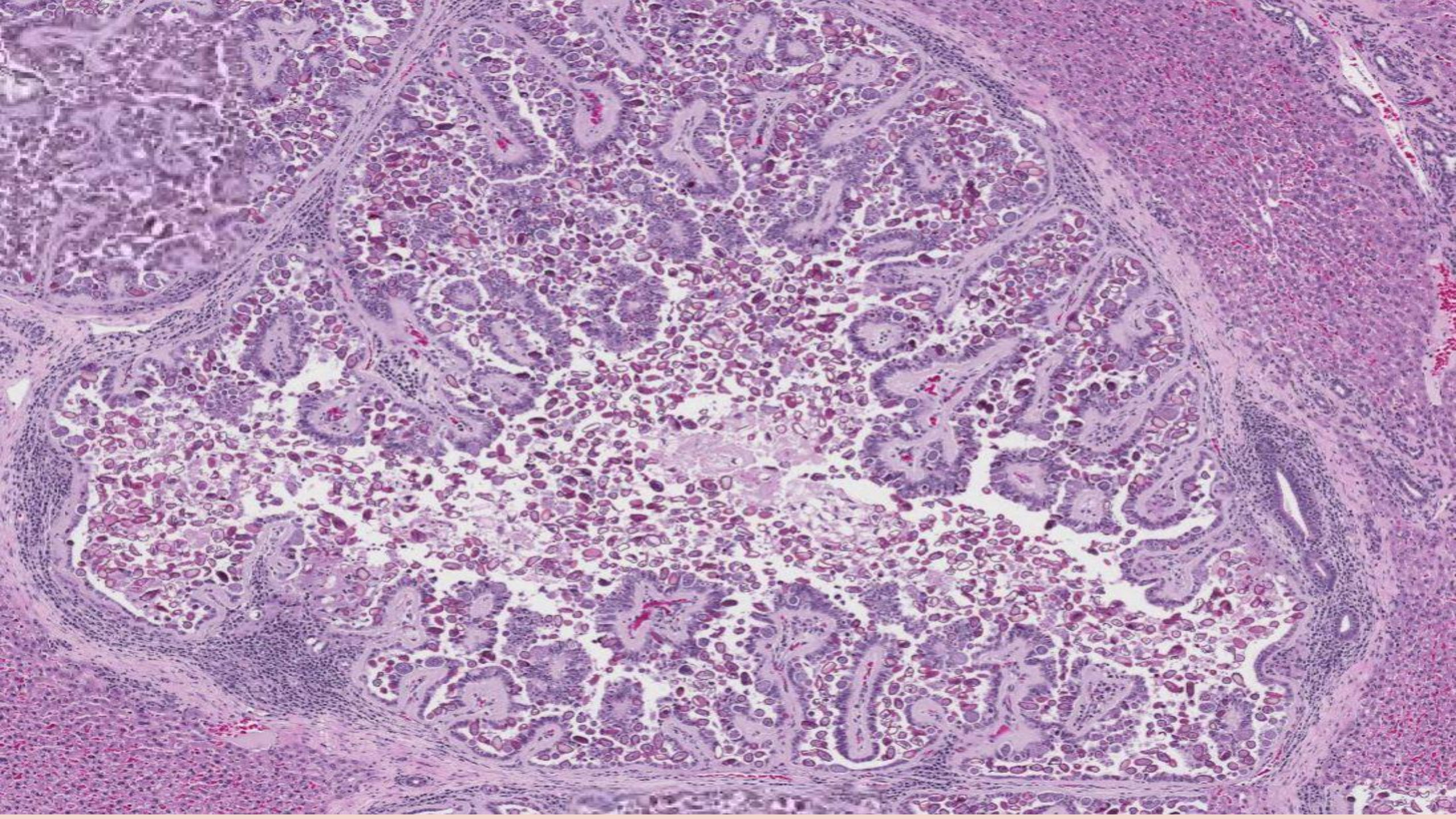
Lesions:

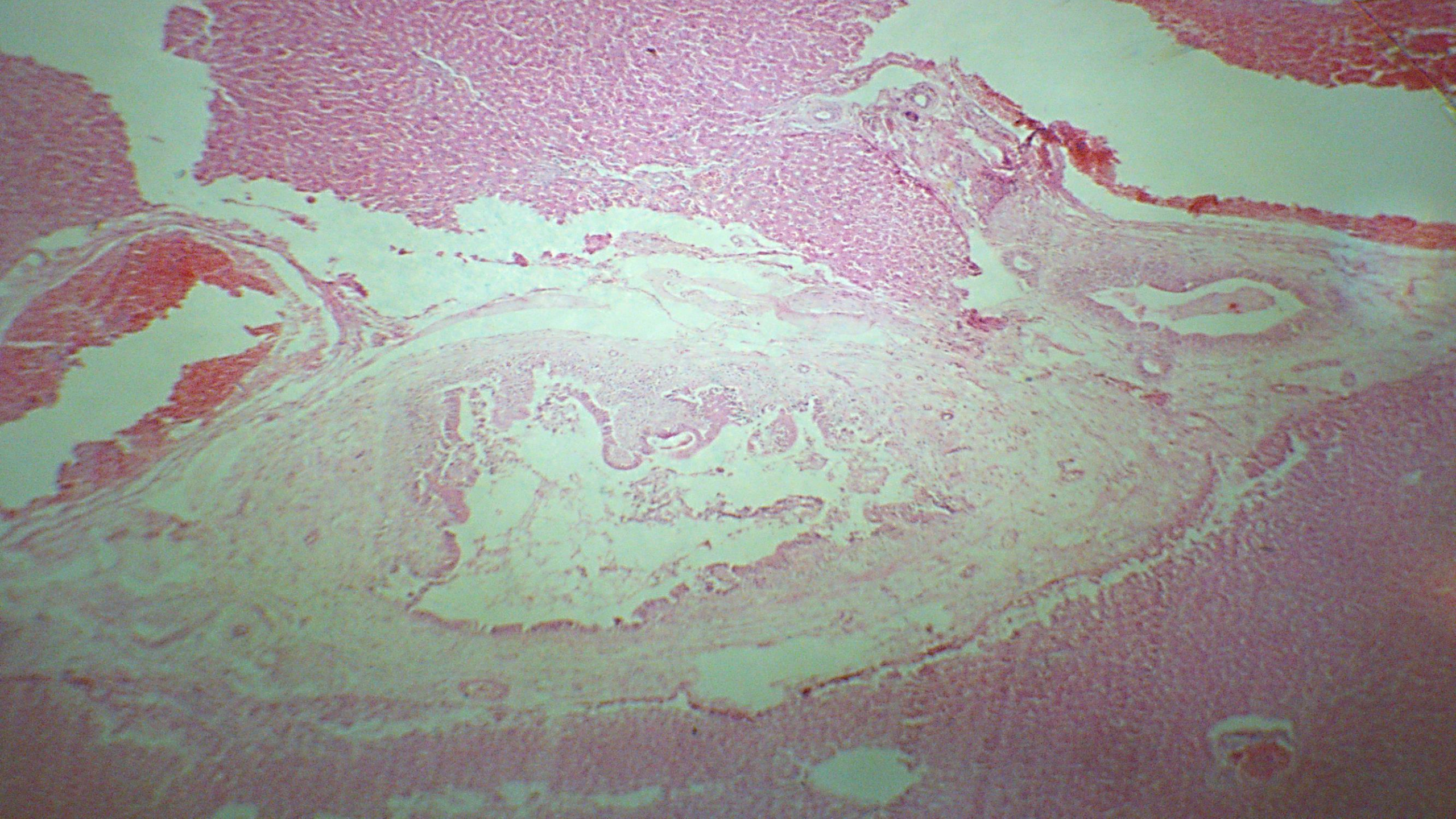
1. Presence of different stages of parasite (Coccidia) that leads to chronic irritation.
2. Increase in the number of epithelial cells lining the biliary canaliculi which appear as finger projection that lead to stenosis of the lumen.
3. Infiltration of inflammatory cells (eosinophils).

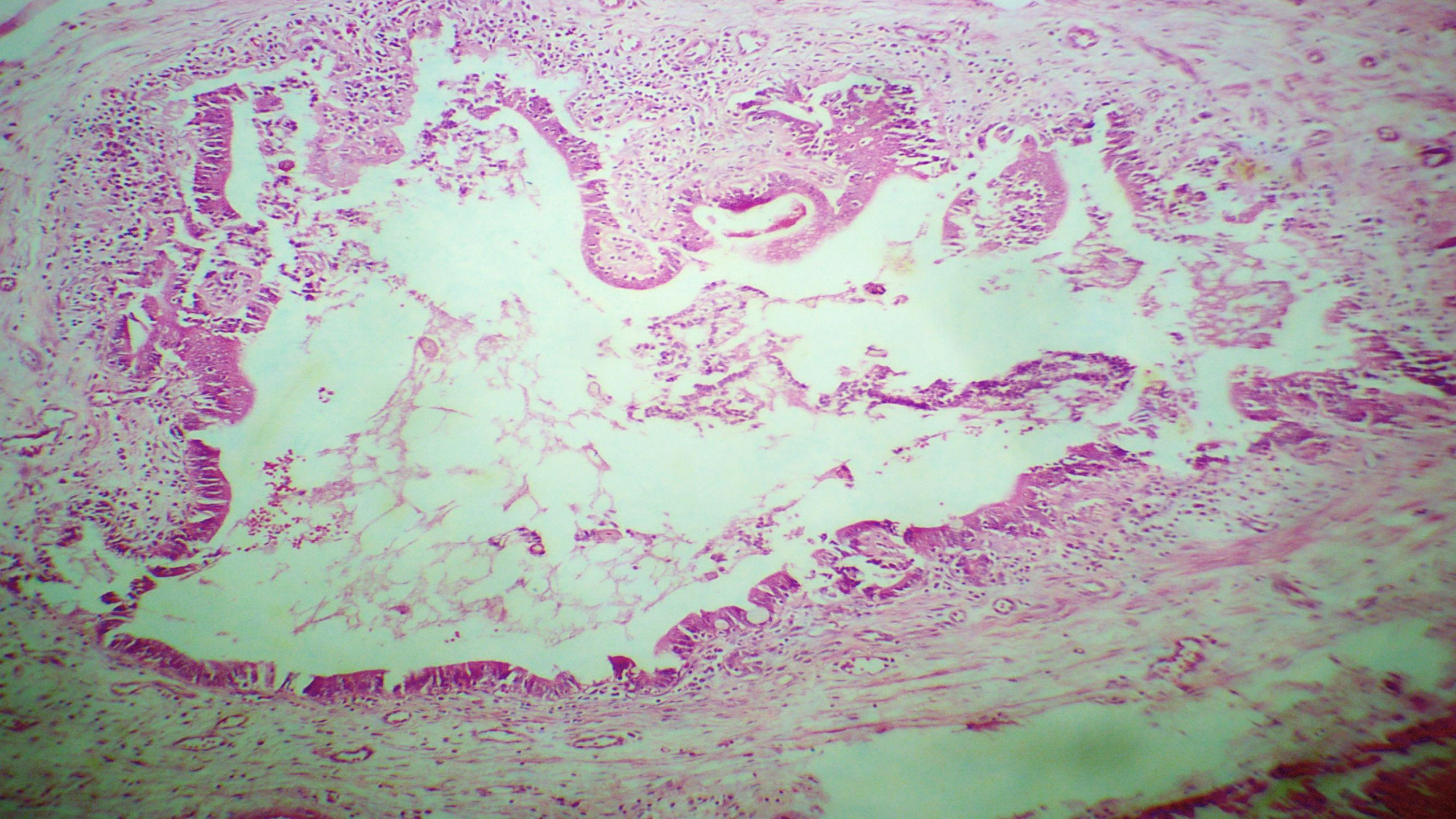




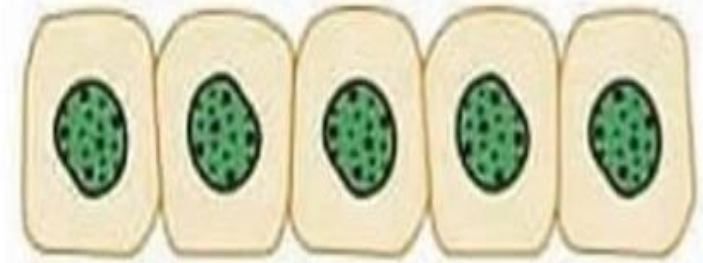
200 μ m







Atrophy



Normal



Atrophy
(decreased cell size)

Diagnosis: Atrophy.

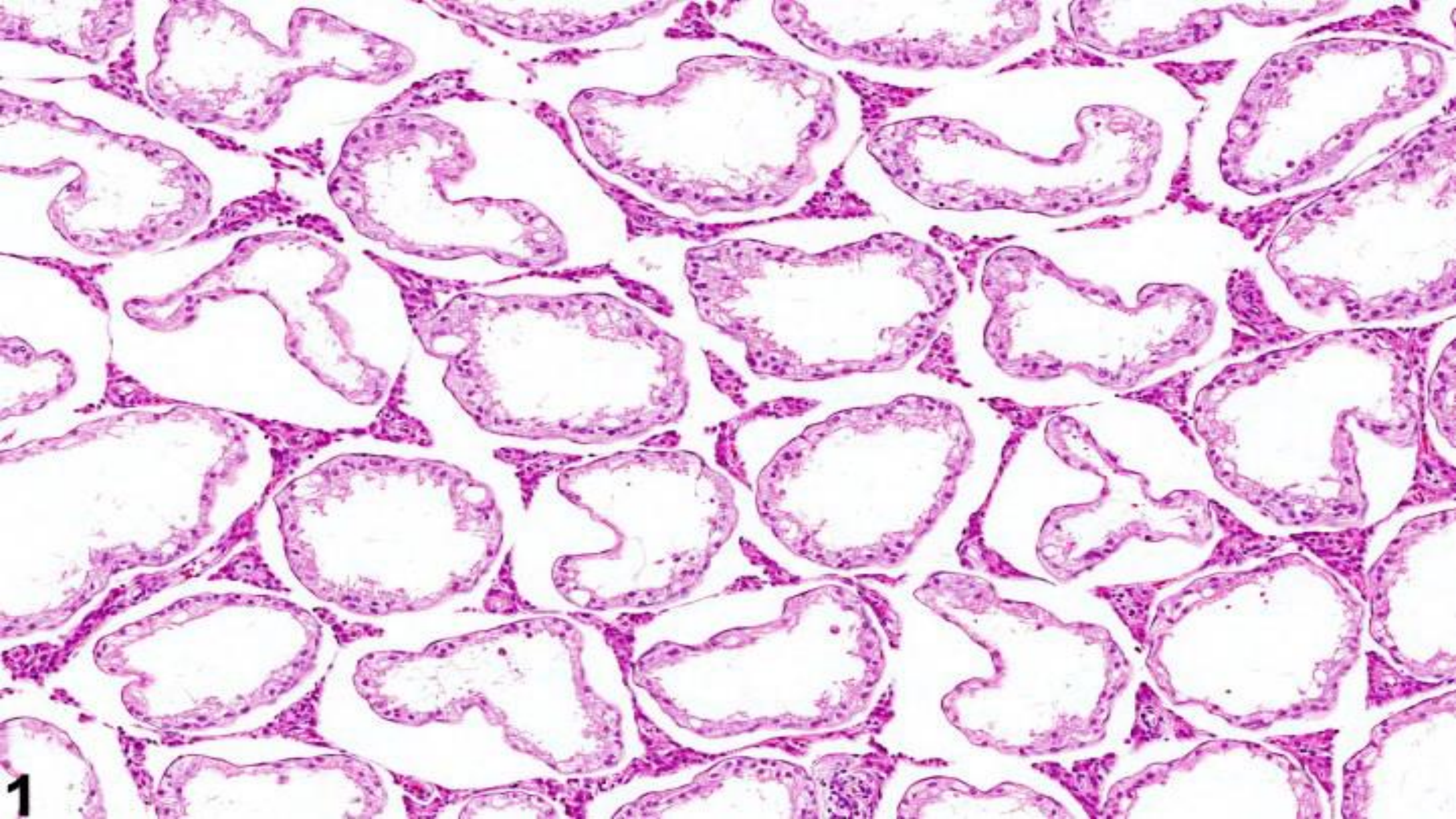
Organ: testes of rabbit.

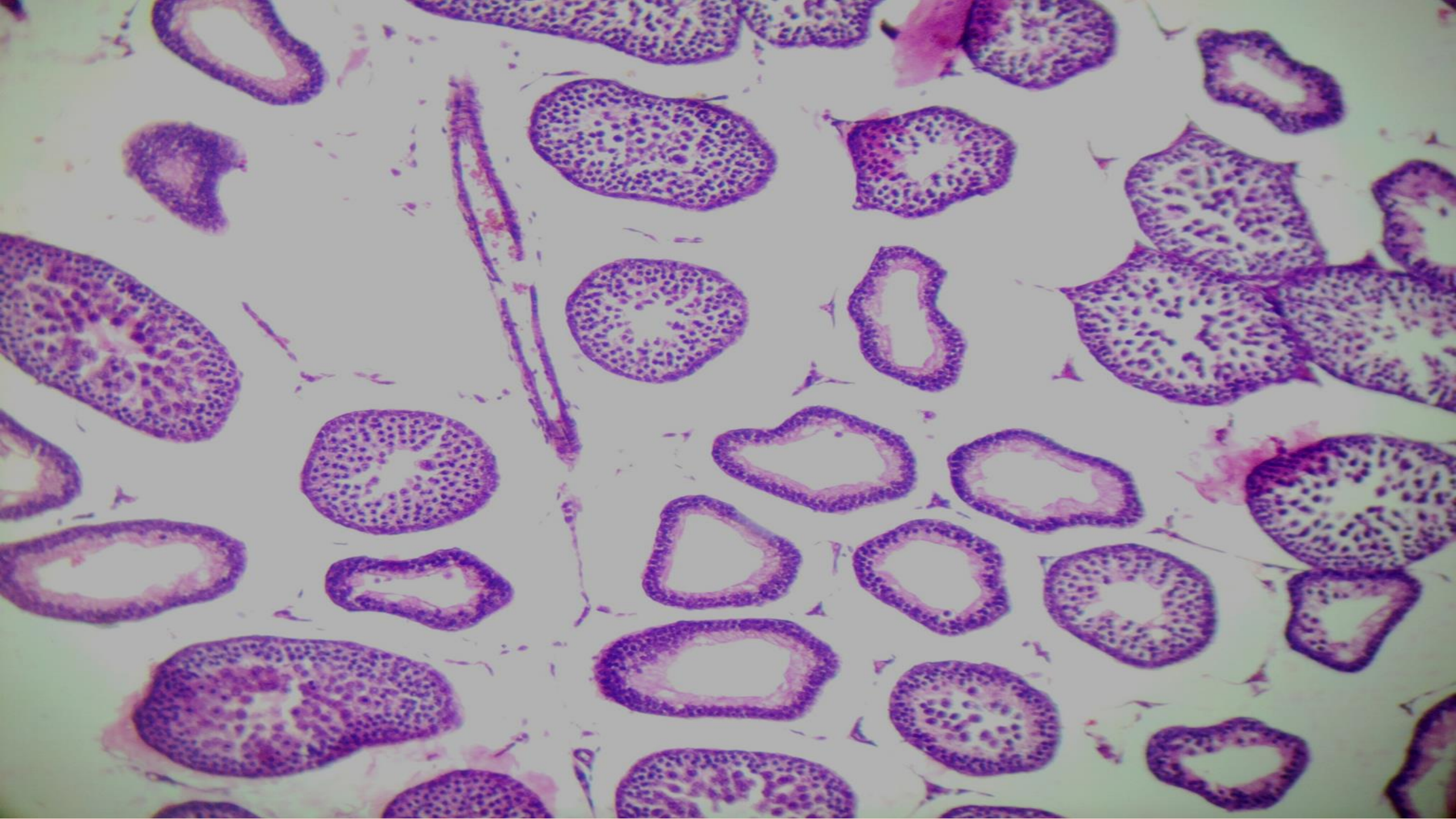
Stain: H&E

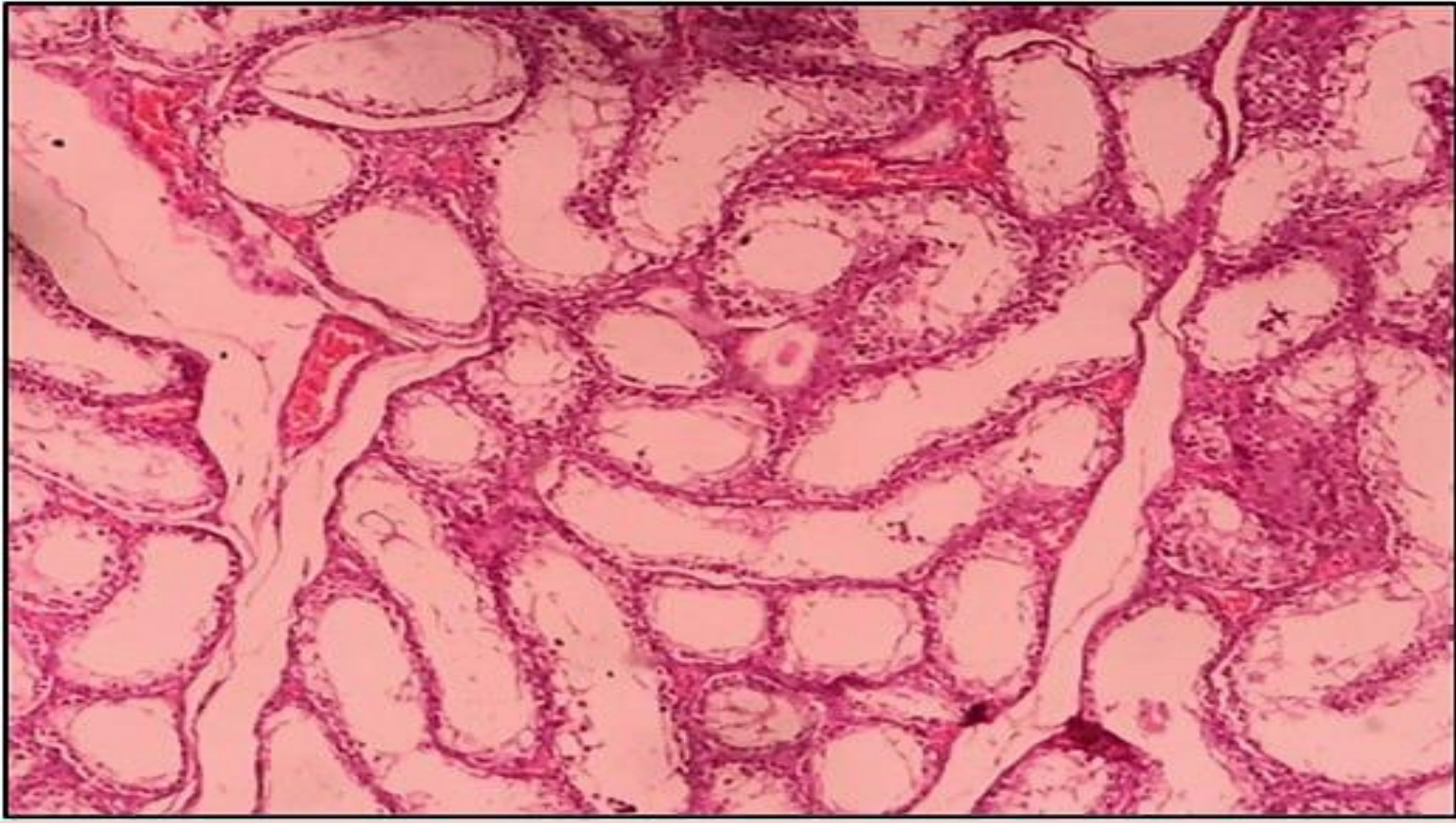
Lesions:

1. Decrease in the number of seminiferous tubules.
2. Edema between seminiferous tubules.
3. Arrest of spermatogenesis & there are no sperms in the lumen of seminiferous tubules.
4. Different size and shape of seminiferous tubules.

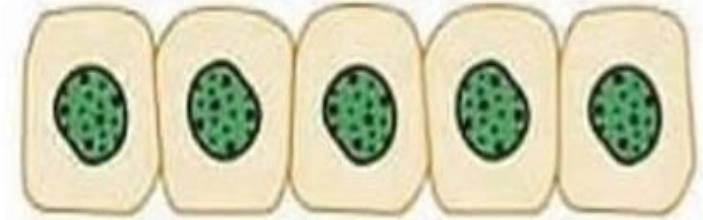




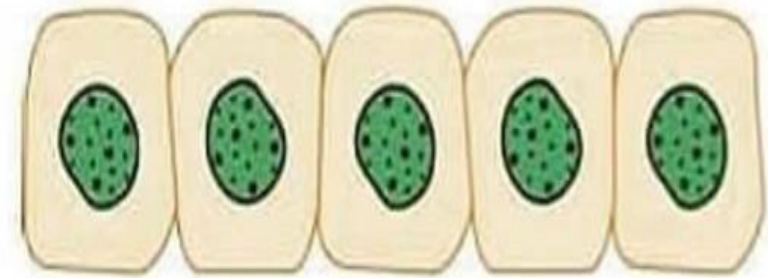




Hypertrophy



Normal



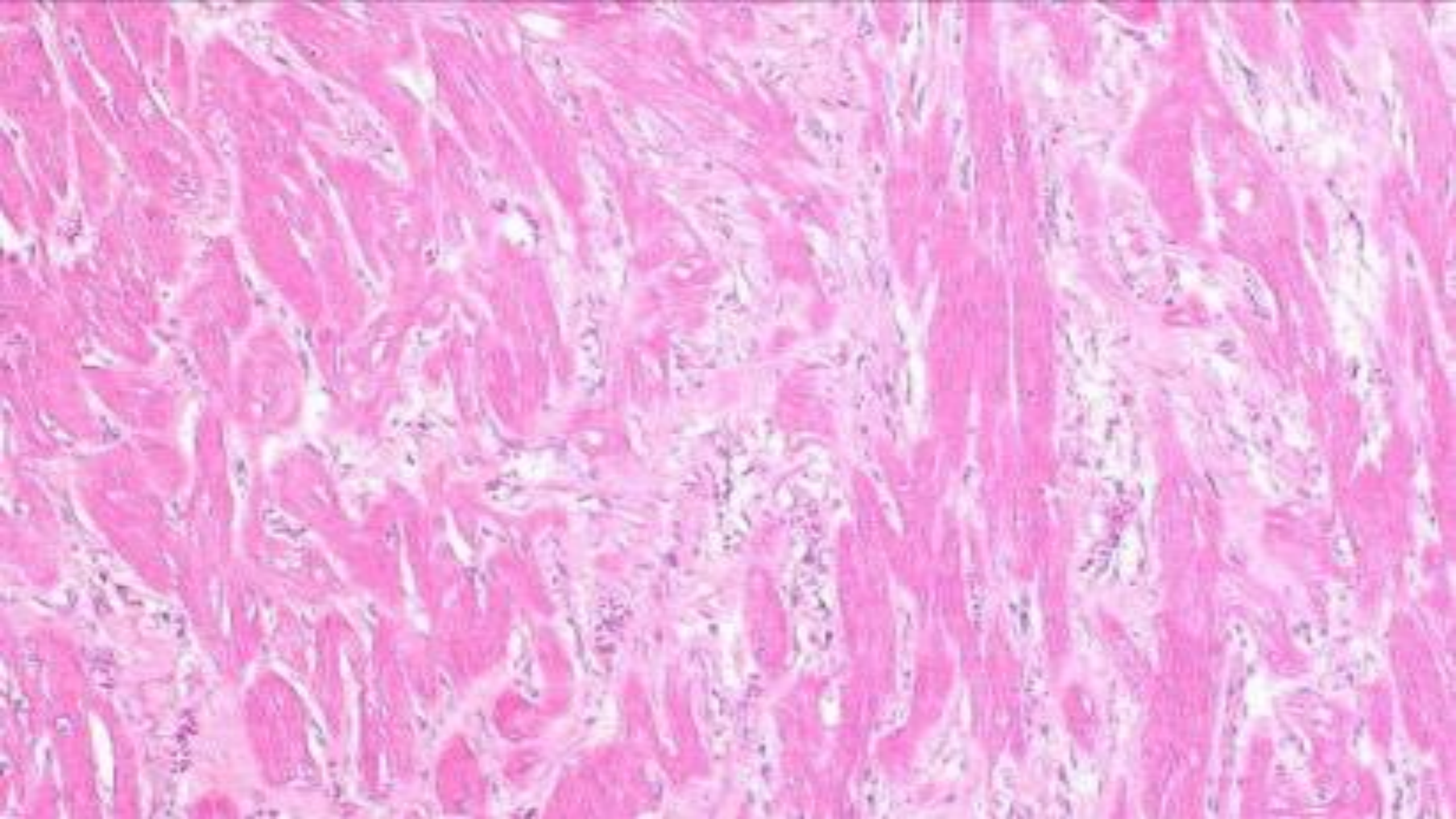
Hypertrophy
(increased cell size)

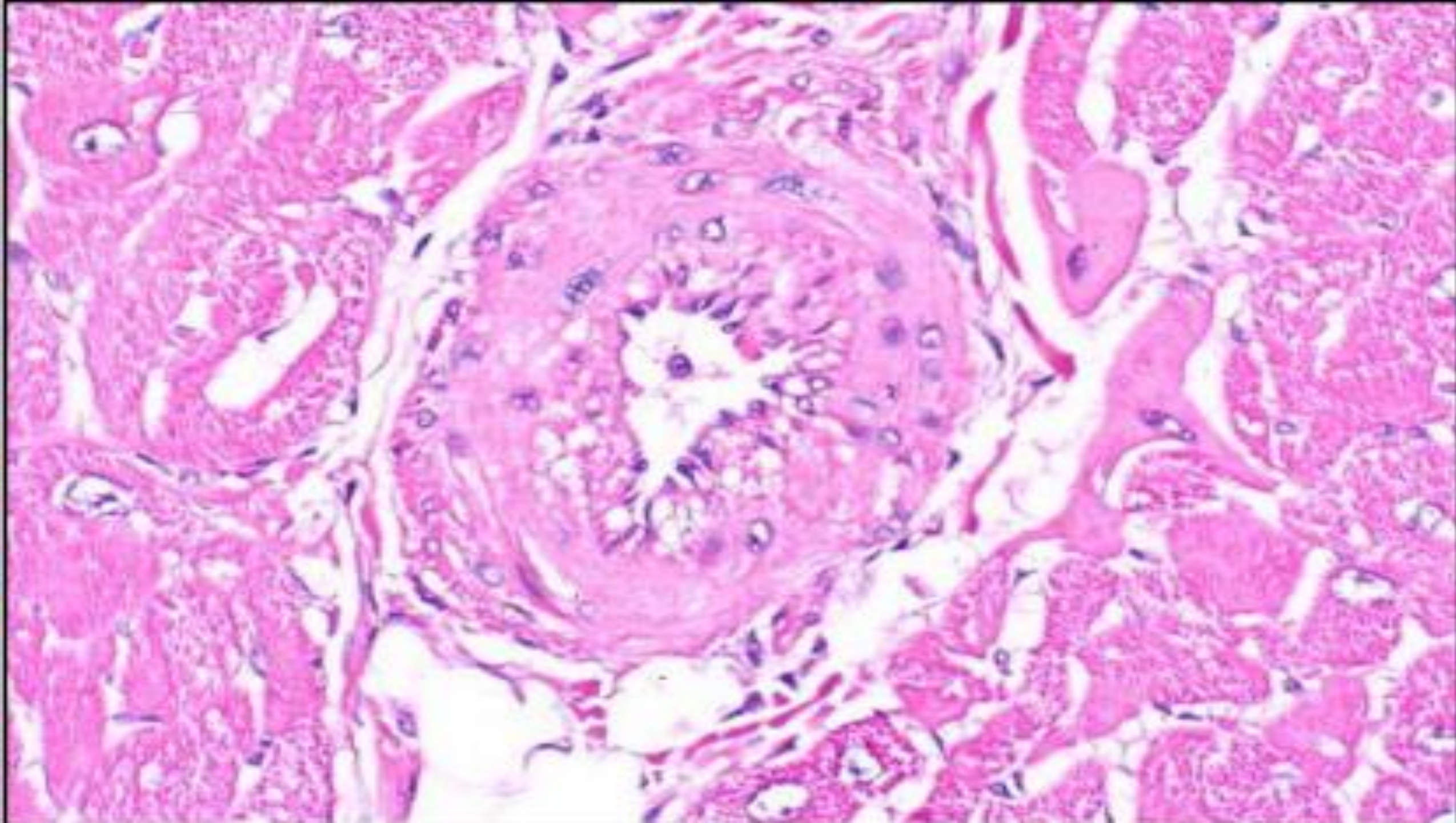
Diagnosis: Hypertrophy.

Organ: Heart.

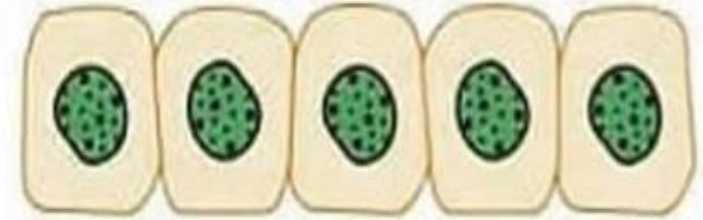
Lesions:

1. Cardiomyocytes are irregularly arranged.
2. Cardiomyocytes are enlarged with abundant eosinophilic cytoplasm and a large vesicular central nucleus.
3. The tunica media of intramyocardial vessels is expanded by hypertrophic smooth muscle cells.

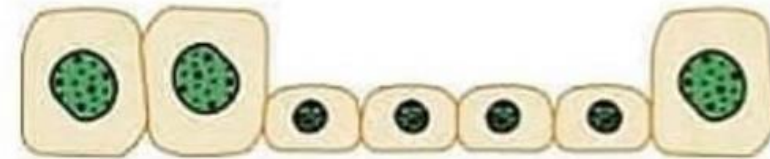




Metaplasia



Normal



Metaplasia
(conversion of one cell
type to another)

Diagnosis: Metaplasia.

Organ: Liver.

Stain: H&E

Lesions:

1. Disappearance of normal architecture of hepatic tissue.
2. Transformation of hepatic tissue into fibrous tissue.
3. There is infiltration of mononuclear inflammatory cells.
4. Transformation of hepatic tissue to bone lamellae.

