PATHOLOGY

Intracellular Degeneration

LAB 1
Cellular swelling
Liver
Organ :- Liver

Lesion :-

1. Narrowing of hepatic sinusoids due to the swelling of hepatocyte.

2. The cytoplasm of affected hepatocyte appears diluted or rarefied due to the presence of excessive amount of water.

Diagnosis :- Cell swelling (cloudy swelling)
Cellular swelling
Kidney
Organ : - Kidney

Lesion :-
1) The Lumen of some convoluted tubules appears star shaped due to the swelling of the lining epithelial cells
2) The cytoplasm of swollen epithelial cells is pale stained (Diluted)

Diagnosis : - Cell swelling
Organ :- Liver

Lesion :-
1) severe narrowing or even closing of hepatic sinusoids, due to enlargement of hepatocyte.
2) The cytoplasm of hepatocytes contains rounded clear empty lipid vacuoles.
3) Some hepatocytes contain multiple tiny vacuoles and other contains large single vacuole pushing nucleus to cell periphery.

Diagnosis :- Fatty Change (Fatty Degeneration)
PATHOLOGY

Extracellular Degeneration

LAB 2
Organ :- Kidney of bird

Lesion :-
1) Blood vessel congestion in renal interstitial tissue
2) protein cast and free RBCs are found within lumen of renal tubules
3) Multifocal deposition of fine, needle like eosinophilic crystals are seen within the renal interstitium surrounded by inflammatory cells particularly multinucleated Giant cells

Lesion Diagnosis :- Focal interstitial nephritis

Disease Diagnosis :- Visceral Gout
Calcification
Artery
Calcification

Artery
• **Organ**: Medium sized muscular artery

• **Lesion**: Deposition of amorphous, basophilic, calcium salts within the tunic media

• **Diagnosis**: Dystrophic Calcification
Amyloidosis
Spleen
• **Organ** :- Spleen

• **Lesion** :- Deposition of amorphous, homogeneous, light pink-coloured extracellularly causing atrophy of the lymphoid tissue in the white and red pulps

• **Diagnosis** :- Diffuse amyloidosis
• **Organ** :- Spleen (Special stain)

• **Lesion** :- The lymphatic nodules of white pulp are replaced by dense blue, amorphous homogenous proteinaceous substance.

• **Diagnosis** : - Focal Amyloidosis (Sago spleen)
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Pathological Pigmentation
LAB 3
• **Organ** :- Spleen

• **Lesion** :- Deposition of Golden Brown granules in splenic red pulp

• **Diagnosis** : - Hemosidrosis
• **Organ**: Spleen (Prussian blue special stain)

• **Lesion**: Deposition of Blueish-colored granules in splenic red pulp

• **Diagnosis**: Hemosiderosis
**Bilurobinosis**

**Liver**

- **Organ** :- Liver

- **Lesion** :- Deposition of yellowish granules within bile canaliculi, cytoplasm of hepatocyte and kupffer cells

- **Diagnosis** :- Bilurobinosis (bile pigment deposition)
• **Organ** :- Lung

• **Lesion** :- Deposition of black colored carbon particles around blood vessels, bronchioles and within alveolar wall and pulmonary interstitial tissue

• **Diagnosis** :- Anthracosis
PATHOLOGY
Necrosis
LAB 4
Coagulative Nec.

LIVER
Coagulative Necrosis

LIVER
**Organ** :- Liver

**Lesion :-**

1) loss of cellular details is apparent multifocal areas however the tissue architecture and cellular outline are still evident.

2) The affected areas are well-demaecated from the surrounding normal ones by inflammatory zones.

**Diagnosis :** - Coagulation Necrosis
Caseous Nec.

LUNG
Caseous Nec.

LUNG
Organ: Lung

Lesion:
1) Loss of tissue architecture, cellular outline and cellular details is evident in multifocal areas.
2) The center of affected area contains clumps of irregular, purplish-colored calcium deposit.
3) The affected area are well-demarcated from the surrounding normal ones by inflammatory zones in which multinucleate langhans giant cells are evident.

Diagnosis: Caseous necrosis and dystrophic calcification
Liquifactive Nec.

LUNG
Organ :- Lung

Lesion :-
1) Loss of tissue architecture, cellular outline and cellular details is apparent in multifocal areas
2) The affected areas show fine purplish granular appearance with central calcification
3) The necrotic areas are well-demarcated from surrounding normal ones by inflammatory zones

Diagnosis : - liquefactive Necrosis
Fat Necrosis

Adipose Tissue
Organ :- Adipose tissue

Lesion :-
1) In multifocal areas, the lipocytes are seen filled with pinkish to purplish, nearly opaque material
2) Marked inflammatory reaction are seen surrounding the affected areas

Diagnosis :- Fat Necrosis