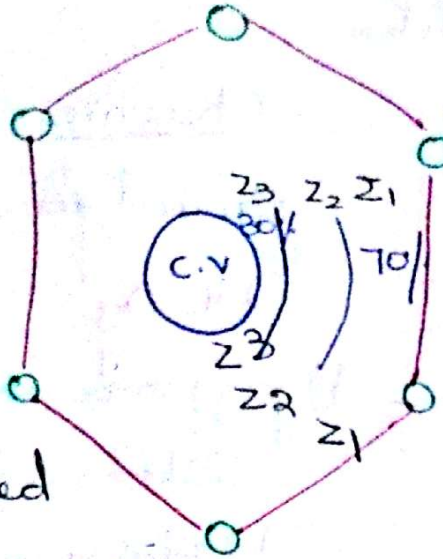
Liver + GIT

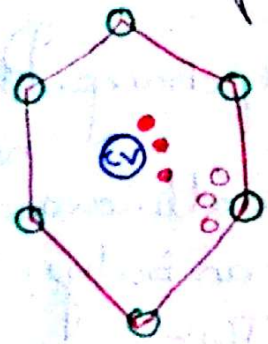


Z3 - pericentral.
Z2 - midzonal (yellow)
Z1 - periportal

Toxin-induced injury → Zone-1

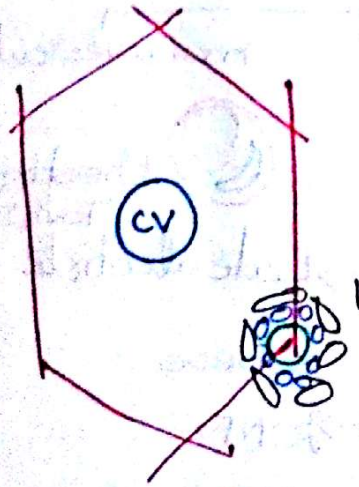
Infarction - Red infarct > white infarct.

Chronic passive congestion → Nutmeg liver.



Pericentral: Congestion
↓
necrosis
↓
dead cell.
↓
Dark Red.
due to RBC congestion.

Periportal
Viable Hepatocytes
yellow tan.



Limiting plate
single layer of cells around portal Triad.

Chronic active
Limiting plate damage by lymphocytes

Chronic Persistent
Limiting plate intact.

Toxic Hepatitis

Autoimmune Hepatitis

Acute

→ Ballooning.

→ Bridging necrosis

→ Councilman Bodies.

Chronic

ground glass.

HbsAg

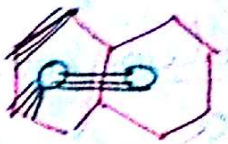
Hydzyanin cells / Shikata cells.

Bridging necrosis ↑

(All other in chronic) fibrosis,

Bridging necrosis

only seen in Portal



→ Fatty change, Piecemeal necrosis

↓

[m/c intracellular accumulation] in human body.

form → TGL

Steatosis

microvesicular

macrovesicular

Phosphorus Toxicity

- early alcoholic
- Reye's Syndrome
- ICC
- Lysosomal lipase deficiency
- Valproic acid / Tetracycline

- Late alcoholic.
- Obese
- DM
- TPN
- Jejunoileal bypass surgery
- malnutrition

Autoimmune Hepatitis - female.

S ↑ IgG - all other markers (-).

→ Responds well to Immunosuppressants

I

↓

ab.

ANA - m/sensitive

→ SMA - most specific.

I

Anti-LKM

Liver kidney muscle.

I - Hep-C.

II - Drugs.

III - Hep-D.

III

Soluble liver Ag Ab.

1) Precancerous necrosis
2) Hepatic Rosette.
3) emperipolesis.

Hep-C characteristic Histopath: Liver Biopsy

1) Councillmann bodies.
2) & Portal Tract - lymphoid aggregate (III - LN Tissue)

Hep-B Serology -

i) earliest marker - HbsAg.
Best epidemiological - HbsAg
ii) Best Acute infection - IgM Antibody HBc.
Best for window period.
iii) Infectivity - HBeAg.
qualitative marker for viral Replication.
quantitative - HBV DNA > HBV DNA polymerase.

HbeAg → antiHbeAb : Seroconversion.

Super Carrier
HbsAg ↑; HbeAg ↑
HBV-DNA ↑.

Simple Carrier.
HbsAg ↑.
HbeAg (-).
HBV-DNA (N) - mild elevation.

P53 Loss mutant ↑ Risk of Cirrhosis / HCC.

Liver Tumor

m/c Liver tumor - Metastasis (1° from Colo Rectal)

m/c Benign tumor - Cavernous Hemangioma.

→ 1° malignancy (adult) → HCC (Hepatoma)

→ 1° malignancy - Pediatric → Hepatoblastoma.

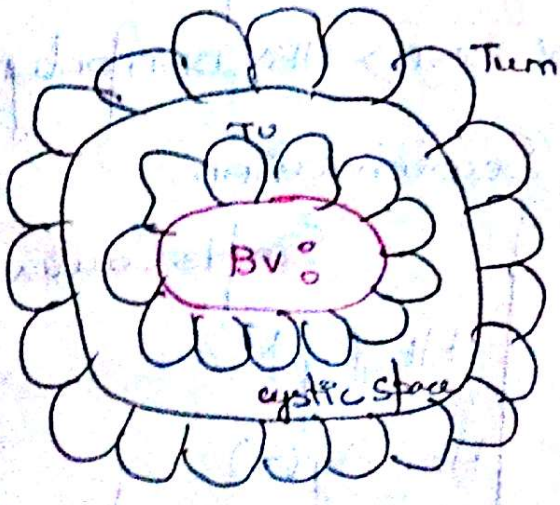
Spleen

m/c tumor → Hemangioma

m/c 1° malignancy. Marginal zone B cell lymphoma.

m/c Cause of isolated Splenic mets: Ovarian tumor.

m/c 1° for splenic mets - melanoma (m/c Cause)



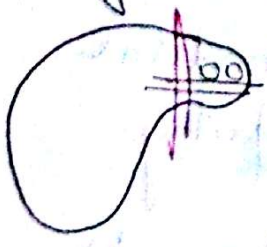
Q. Glomeruloid / Schiller duval body

Yolk Sac tumor

Call-exner Bodies → Granulosa Cell Tumor
↑ estrogen - endometrial Ca.

Reinke's Crystal - Hilus cell tumor

Retentary/obstruction - Benign Cystic Teratoma



Risk of malignancy - (1%) Squamous cell Ca.

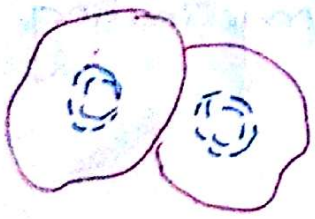
Nuclear ectures - dx:

Papillary Ca of thyroid

1) Optically clear nuclei (orphan annie eye) (without nuclear chromatin)

2) Nuclear grooving.

3) Pseudo inclusions (Cytoplasm dragged into nucleus)



Rimmed Vacuoles - Inclusion Body (Basophilic staining) myositis.

Target Fibres - Denervation atrophy (Motor neuron disease)

Basophilic Hue of Regenerating muscle fibre -

Duchenne muscular dystrophy

Nemaline Rod myopathy

E-M → Z like Structures / Zeta Bodies

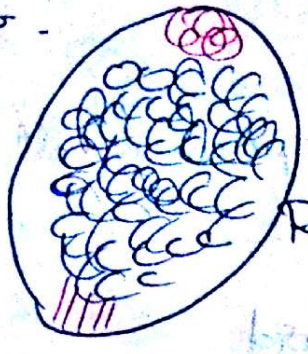
made up of α-actinin.

Floppy infant, Rod like structures on special stain.

Intermittent muscular weakness - mitochondrial myopathy

muscle fibres.

Ragged



Red - Ragged myofibres

Red - damaged mitochondria

E.M → Parking lot inclusions.

Mitochondrial myopathy.

Onion bulb neuropathy -

Segmental myelination & demyelination.

→ CIDP - Chronic inflammatory demyelinating polyradiculoneuropathy.

→ Charcot - Marie tooth disease.

Urine examination -

→ E/M/C crystal - Calcium oxalate.

Dumbbell shape - Calcium oxalate monohydrate

envelope - Calcium oxalate Dihydrate

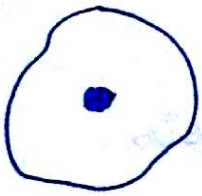
Coffin shaped - Triple phosphate

muddy Casts + Calcium Oxalate → ethylene glycol poisoning

Pap Smear

↑ Superficial cells → estrogenic phase.

Intermediate cell → Progestaone phase.



Parabasal - 

Basal - 

Trichomonas Vaginalis. elongated nuclei

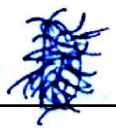
Leptothrix thin filament Bacill

when leptothrix (+) → Trichomonas usually +ve.

Candida - yeast + Hyphae.

Clue cells - Basophilic Border of Squamous cells.

Actinomycetes - Cotton Ball, Sun Ray filaments [H/O-IUD



cyto - Blue
Histo - pink.

Translucent Vacuole like structure in Squamous cell

 → Chlamydial infection

Bullous pemphigoid → BP Ag 2.

Inflammation - cluster of mast cells
eosinophils

Through + through Blisters, Ribbon Candy

Dermatitis Herpetiformis - Neutrophilic infiltrate
only in dermal TIP.
→ dermal IgA type immunofluorescence

ER/PR positivity:

ER, PR - IHC → nuclear IHC positive
↓
Brown colour - good prognosis.

Hex 2-neu - membranous IHC.

Bad prognosis.