THALASSEMIC SPLEEN

Gross:

- **Size:** Markedly enlarged (splenomegaly).
- **Color:** Dark brown due to hemosiderin deposition.
- **Consistency:** Firm to hard from fibrosis.
- **Cut surface:** Thickened capsule, congested red pulp, brown granular appearance.

Microscopy:

- **Red pulp:** Marked congestion and extramedullary hematopoiesis.
- **Hemosiderin:** Abundant deposits in macrophages.
- **Fibrosis:** Thickened capsule and trabeculae with fibrous tissue.
- **White pulp :** Reduced or atrophic due to repeated destruction of abnormal RBCs.

AMYLOID SPLEEN

Gross:

- **Sago spleen:** Moderate enlargement; firm; cut surface shows translucent, waxy, pale nodules in white pulp.
- **Lardaceous spleen:** Markedly enlarged; firm; cut surface shows diffuse, map-like waxy gray-pink appearance involving red pulp.

Microscopy:

- **Sago spleen:** Amyloid deposits in splenic follicles (white pulp), appearing as eosinophilic, amorphous material.
- **Lardaceous spleen:** Amyloid in walls of splenic sinusoids and red pulp.
- **Special stain:** Congo red – salmon-pink deposits; apple-green birefringence under polarized light.

MALARIAL SPLEEN

Gross:

- **Size:** Markedly enlarged (may reach 1–2 kg).
- **Color:** Dark slate-gray to black (due to malarial pigment *hemozoin*).
- **Consistency:** Initially soft, later firm and fibrotic in chronic cases.
- **Cut surface:** Thickened capsule, congested pulp, diffuse blackish discoloration.

Microscopy:

- **Red pulp:** Marked congestion with parasitized and non-parasitized RBCs.
- **Pigment:** Malarial pigment (*hemozoin*) in macrophages.
- **Fibrosis:** Thickened capsule and trabeculae in chronic cases
- **White pulp:** Lymphoid hyperplasia early, later depletion

CVC SPLEEN

Gross:

- Spleen is enlarged, firm, and tense, with a thickened capsule.
- The cut surface of the spleen oozes dark blood due to the accumulation of blood within the splenic tissue.

Microscopy:

- Spleen shows a thickened capsule and trabeculae.
- The red pulp shows dilatation and congestion of the sinuses due to the accumulation of blood.
- Old hemorrhages are present, which are replaced by fibrosis and are impregnated with iron pigment and calcium salts.
- The iron-containing, fibrotic, and calcified foci of old hemorrhage are called Gamma-Gandy bodies.

SPLENIC INFARCT

Gross:

- **Appearance:** Wedge-shaped or triangular pale area, base toward the splenic capsule, apex toward the hilum.
- **Early stage:** Dark red or congested due to hemorrhage.
- **Later stage:** Pale, yellow-white, firm due to coagulative necrosis.
- **Capsule:** May show a slight bulge over the infarcted area.
- **Multiple infarcts:** Can be seen in embolic or septic conditions.

Microscopy:

- **Coagulative necrosis** of splenic parenchyma – preserved architecture but loss of nuclei.
- **Eosinophilic cytoplasm** in necrotic cells.
- **Neutrophilic infiltration** at the periphery in

SPLENIC CYST

Gross:

- **Appearance:** Well-circumscribed cystic lesion within splenic parenchyma.
- **Size:** Variable (few cm to >20 cm).
- **Wall:** Smooth or trabeculated; lined by fibrous tissue.
- **Surrounding spleen:** May be compressed, thinned-out, or show congestion.

Microscopy:

- **True cyst:** Epithelial/mesothelial lining, fibrous wall, compressed spleen.
- **False cyst:** No lining, fibrous wall with hemosiderin-laden macrophages ± calcification.
- **Parasitic (hydatid):** Laminated membrane, germinal layer with scolices, fibrous capsule with inflammation.

INFARCT SPLEEN

Gross:

- **Shape:** Wedge-shaped, base toward capsule, apex toward hilum.
- **Color:** Pale yellow-white (acute) → firm, shrunken, depressed scar (chronic).
- **Surface:** Capsule over infarcted area may be wrinkled; sometimes fibrinous exudate if perisplenitis
- **Size:** Variable, may be single or multiple.

Microscopy:

- **Acute:** Coagulative necrosis of splenic pulp, preserved tissue outlines, loss of nuclei, eosinophilic cytoplasm, neutrophilic infiltration at margins.
- **Chronic:** Fibrous scar replacing necrotic tissue, reduced or absent splenic pulp, hemosiderin deposits, possible dystrophic calcification.

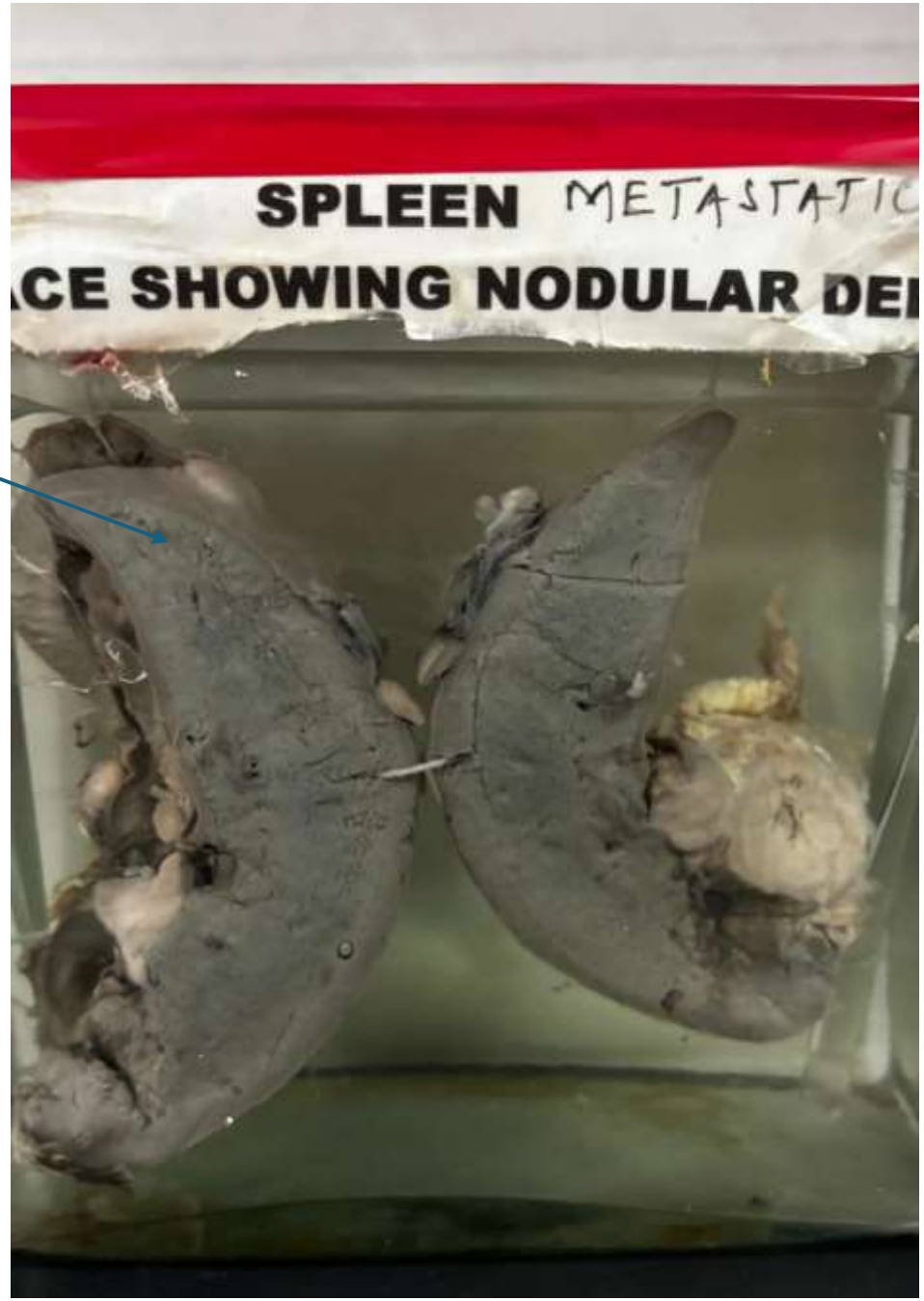
METASTATIC SPLEEN

Gross:

- **Surface:** Multiple firm, nodular deposits on splenic capsule.
- **Color:** White to gray, sometimes with hemorrhagic areas.
- **Consistency:** Solid, may be hard if fibrotic or calcified.
- **Cut surface:** Nodules extend into parenchyma, often well-demarcated from surrounding tissue

Microscopy:

•Tumor cells infiltrating splenic capsule and parenchyma.
•Architecture replaced by malignant cells resembling the primary tumor.
•Possible desmoplastic stroma, hemorrhage, or necrosis.
•Surrounding spleen may show compression of red and white pulp.



TRAUMATIC SPLEEN

Gross:

- **Capsule:** Tear or rupture, often with irregular margins.
- **Parenchyma:** Lacerations, hematomas, or shattered spleen
- **Surface:** Covered with fresh or clotted blood

Microscopy:

- Disruption of splenic architecture with hemorrhage and necrosis.
- Fibrin deposition and inflammatory cell infiltrates at injury margins.
- Possible organization of hematoma in older lesions with granulation tissue and fibrosis.