MENINGIOMAS:

→ It arises from the meningothelial cells of the arachnoid mater.
→ They benign intracranial tumors.
→ They are usally attached to the dura.

PATHOGENESIS: →

1) Sporadic: The majority of meningiomas occur likely
• somatic loss of function mutation in the NF2 tus gene.
↓ encodes merlin.
• other genetic alteration: mutation in TRAF 7, KLF4, AKT1 SMO.
Most of them occur in meningiomas of the skull base
↓ lower Risk of malignant progression.
• TERT promoter mutation
2) Iatrogenic: It can develop as complication of Radiation therapy.
3) Tumor predisposition syndrome: neurofibromatosis type 2 (NF2 can occur in family with genetic defects.
↳ NF1, VHL, PTEN

MORPHOLOGY:

location: occur in to the distribution of the arachnoid membrane.
They typically occur in intracranial, extraspinal or orbital locations.

HCS → parasagittal Regions of the cerebral hemispheres
lateral convexity, olfactory grooves.

GROSS:

- External surface: It appear as well circumscribed, smooth, Rounded.
- Consistency - from to fibrous → (psammoma bodies).
- Broad dural attachment: The base is usually attached to the dura
- cut surface: Gray without necrosis or hemorrhage
- Compression of the underlying brain tissue

MICROSCOPY:

Diagnostic features: Whorls And psammoma bodies. (concentrically laminated spherical calcification)

characterized by concentric wrapping of tumor cell around one another.

HISTOLOGIC SUBTYPE:

① → Syncytial ~~meningioma~~ meningioepithelial - peculiar feature of meningothelial meningioma

↳ clusters of epithelioid cell with fuzzy cell membrane arranged as syncytia like lobules. (cytoplasmic mass without visible cell membrane containing several nuclei).

② → Fibroblastic → spindle shaped elongated cell arranged in interlacing fascicles separated by collagen Rich matrix.

(3) Transitional → both squamous And fibroblastic.

(4) ~~Psam~~ Psammomatous.

DCIS → -ve for GFAP And keratins
+ve for epithelial membrane Antigen