

#MADEEASY

**CNS
TUMOURS**





What are basic concepts of CNS Tumors?

Basic concepts

- **General clinical features:**

 - Headache

 - Seizures

 - Raised ICT

- **If you google you have a headache, it'll tell you that you might have brain cancer.**

- **Based on aggressiveness: Grade 1 to 4 (4 being high grade: most aggressive)**

- **Based on location : Supratentorial tumours seen in adults infratentorial tumours.**

- **Based on histology: WHO classification**



Can we classify CNS Tumors?



Classification

- **Primary CNS tumours**
 - **Tumours originating in the CNS.**
 - **WHO classification based on histology**
- **Secondary CNS tumours**
- **Tumours originating in other parts of the body, with metastasis to CNS.**
- **Secondary tumours are MC tumours in CNS.**
 - **Small cell lung cancer (MC)**
 - **Breast cancer**
 - **Malignant melanoma**



What are Primary CNS tumors?



Glioma

- **Subtypes are made of vowels A, E, O.**
- **Derived from glial cells**
- **Astrocytoma**
- **Derived from astrocytes**
- **Grade 1: Pilocytic astrocytoma**
 - **Benign tumour**
 - **Location: cerebellum**
 - **Seen in children (MC primary benign CNS tumour in children)**
 - **Microscopic finding: Rosenthal fibres**
- **Grade 4: Glioblastoma multiforme**
 - **High grade malignant tumour**
 - **Location: cerebral cortex**
 - **Seen in adults (MC primary malignant CNS tumour in adults)**
 - **Microscopic finding: pseudo-palisading necrosis**

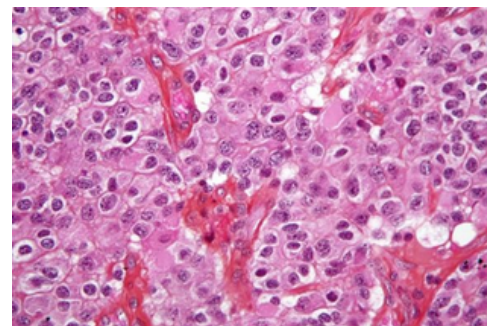


What is Oligodendrocytoma?



Oligodendrocytoma

- ***Derived from oligodendrocytes***
- ***Location: frontal lobe most commonly***
- ***Microscopic finding:***
 - ***“Fried-egg” appearance of tumour cells.***
 - ***Calcification***
 - ***Chicken-wire capillaries***



What is Ependymoma?



Ependymoma

- ***Derived from ependymal cells***
- ***Location: Ventricles, Spinal cord***
- ***Microscopic finding:***
- ***Perivascular pseudo-rosette***



What is Meningioma?



- **Derived from arachnoid cells in meninges**
- **Seen in adults (MC primary CNS tumour in adults)**
- **Usually benign, unilateral**
 - **If bilateral: Neurofibromatosis 2**
- **Microscopic finding:**
 - **Psammoma bodies: concentric calcification**
- **Tips to remember: MNOP**
 - **M: meningioma**
 - **N: NF2**
 - **O: Oldies (adults)**
 - **P: Psammoma bodies**



What is Schwannoma?



- **Derived from Schwann cells**
- **Seen in adults**
- **Location:**
 - **Peripheral nerves**
 - **Cranial nerves (example, vestibular schwannoma in association with CN 8)**
- **Microscopic finding**
 - **Verocay bodies: palisading nuclei**
 - **Antony A pattern: all pink, with lots of cells.**
 - **Antony B pattern: Both pink and white, with less cells.**



What is Medulloblastoma?



- **Derived from neuroectodermal cells**
- **Seen in children (MC primary malignant CNS tumour in children)**
- **Location: cerebellum**
- **Microscopic finding:**
 - **Homer-Wright pseudo-rosette: rosette formed by tumour cells**

