

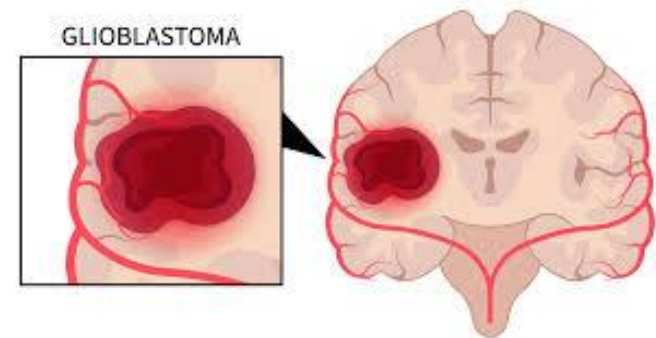
Glioblastomas- A brief Overview

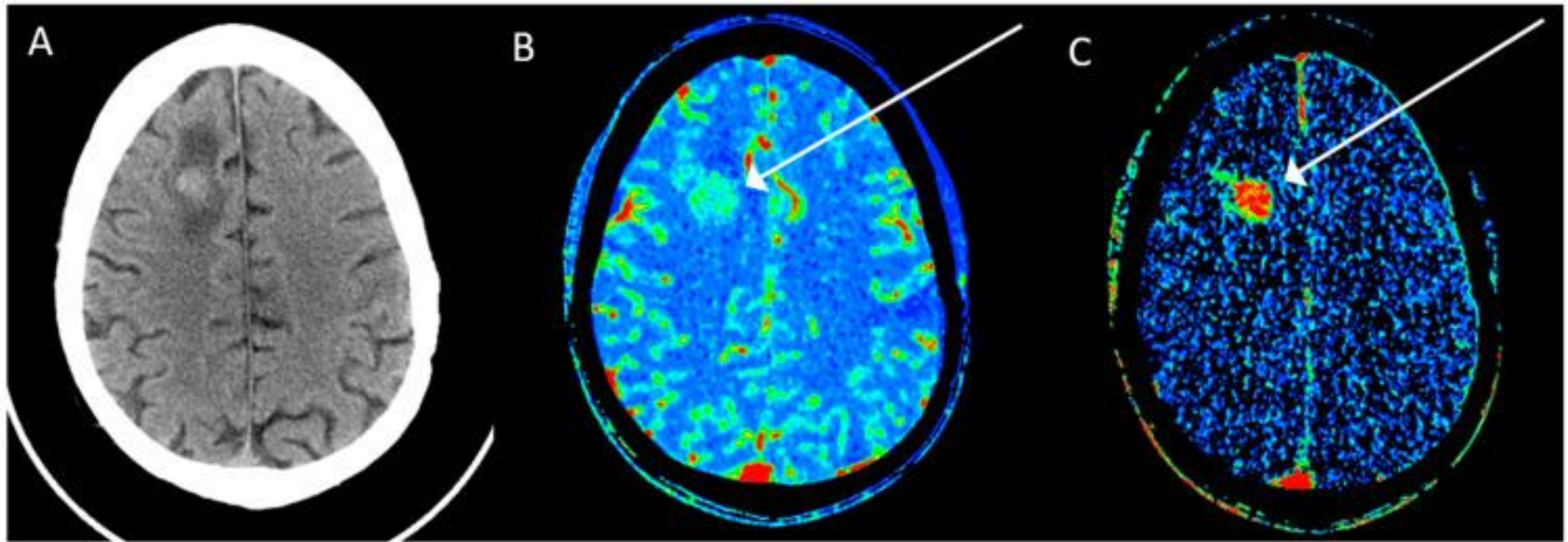
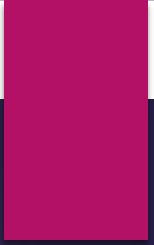
BY HARSITA CHANDRASEKARAN



What are Glioblastomas

- ▶ They are an aggressive type of brain tumour that develop from glial cells, which are a type of supportive cells in the brain.
- ▶ They are predominantly known for their rapid growth and infiltrative nature, which make them difficult to treat effectively
- ▶ They are classified as grade 4 tumours, indicating the most malignant form of glioma
- ▶ It generally does not spread to distant organs



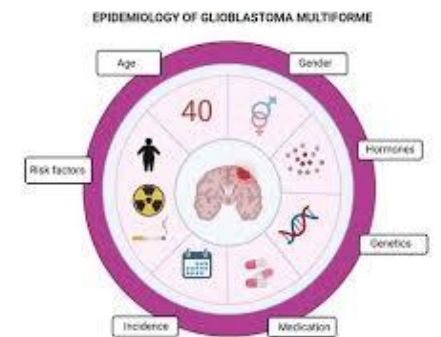


How common are glioblastomas?

- ▶ Relatively rare compared to other types of brain tumours BUT most common type of primary malignant brain tumour in adults
- ▶ Incidence increases with age
- ▶ Slightly more common in men than woman
- ▶ There is a similarity in incidence of glioblastomas between Europe and United States
- ▶ The prevalence of glioblastomas in Asian countries may be slightly lower compared to Western countries, but they still represent a significant portion of primary brain tumours diagnosed in adults.

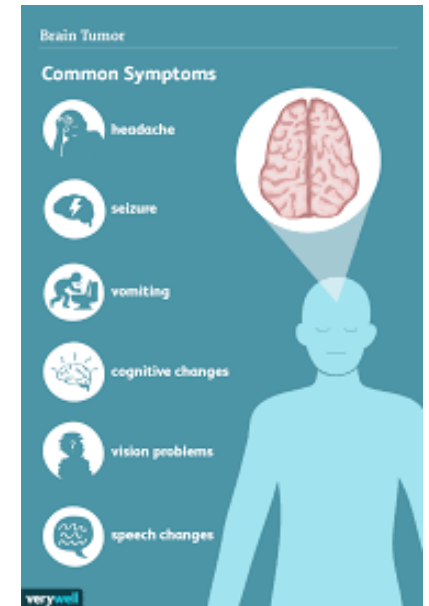
Risk Factors and Genetic Predispositions

- ▶ Age- Glioblastomas are more common in older adults with the peak incidence occurring in adults between the ages of 45 and 75.
- ▶ Environmental factors- exposure to ionizing radiation (such as radiation therapy for previous brain tumours) and certain chemicals (such as vinyl chloride and formaldehyde) has been implicated as potential risk factors.
- ▶ Genetic predisposition syndromes: Rare genetic syndromes such as neurofibromatosis type 1 (NF1), Li-Fraumeni syndrome, Turcot syndrome, and Gorlin syndrome are associated with an increased risk of developing glioblastomas.



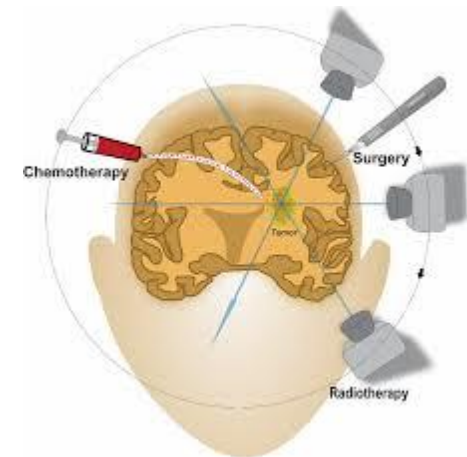
Symptoms of Glioblastomas

- ▶ Headaches: Persistent or worsening headaches, often accompanied by nausea and vomiting, are a common symptom of glioblastoma.
- ▶ Neurological deficits: Glioblastomas can cause various neurological symptoms depending on the area of the brain they affect.
- ▶ Changes in sensation: Glioblastomas located near sensory regions of the brain may cause changes in sensation, such as numbness or tingling in certain parts of the body.



Treatment for Glioblastomas

- ▶ **Surgery:** Surgery is often the first-line treatment for glioblastomas. The goal of surgery is to remove as much of the tumour as possible while preserving neurological function.
- ▶ **Chemotherapy:** Chemotherapy is often used in combination with radiation therapy for the treatment of glioblastomas. The most commonly used chemotherapy drug for glioblastomas is temozolomide, which is usually taken orally during and after radiation therapy.



Areas of Research surrounding Glioblastomas

- ▶ Dendritic cell vaccines- derived from a patient's own immature immune cells which are developed into dendritic cells (cells that instigate the immune response).
- ▶ CAR T-cell therapy- CAR T-cell therapy also involves removing and engineering a patient's immune cells—in this case T cells—to bind to specific proteins that are overexpressed by glioblastoma cells, and then re-administering the T cells to the patient.



Thank you for listening!