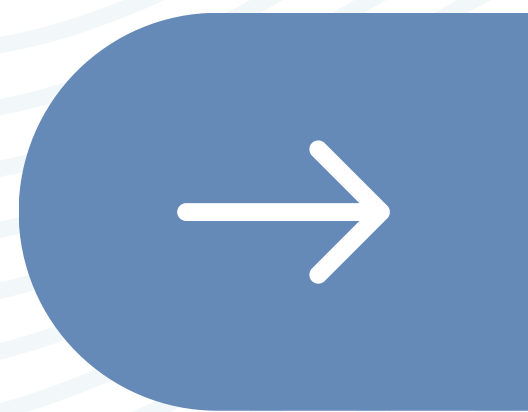


# #DIBS BY NEXTILLO

DAILY INFORMATION BULLETIN SERVICE

**CORPUS CALLOSUM**





# #DIBSBYNEXTILLO

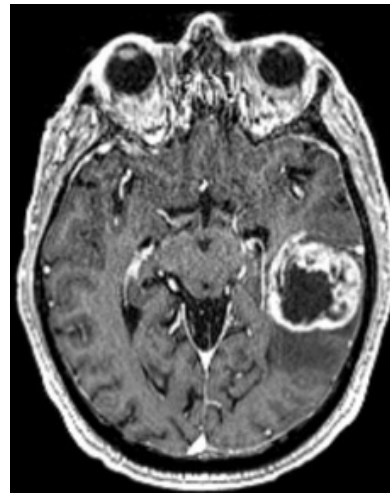
DAILY INFORMATION BULLETIN SERVICE

## CORPUS CALLOSUM

*The corpus callosum is the primary commissural region of the brain consisting of white matter tracts that connect the left and right cerebral hemispheres. It is composed of approximately 200 million heavily myelinated nerve fibers that form homotopic or heterotopic projections to contralateral neurons in the same anatomical layer. During infancy, the corpus callosum expands rapidly.*



# IMAGE DESCRIPTION



## **GLIOBLASTOMA MULTIFORME**

- Glioblastoma (GBM), also referred to as a grade IV astrocytoma, is a fast-growing and aggressive brain tumor.
- In adults, GBM occurs most often in the cerebral hemispheres, especially in the frontal and temporal lobes of the brain.
- GBM has typical features of malignant tumors like atypical cells, nuclear hyperchromasia, increased mitotic figures, angiogenesis, and necrotic areas GBM has high vascularity.
- According to histopathology, astrocytomas contain glial fibrillary acidic protein (GFAP).
- Molecular pattern includes IDH-mutant and IDH-wild type detected by Immunohistochemistry (IHC).
- Tumors are classified morphologically by WHO as grade I-IV.
- Glioblastoma multiforme is classified as grade IV.



# STRUCTURE AND FUNCTION

- *The primary function of the corpus callosum is to integrate and transfer information from both cerebral hemispheres to process sensory, motor, and high-level cognitive signals.*
- *The anterior callosal fibers transfer motor information between the frontal lobes, and the posterior fibers are involved in the processing of somatosensory (posterior midbody), auditory (isthmus) and visual (splenium) cues by connecting the parietal, temporal, and occipital lobes.*
- *Corpus callosum has an inhibitory effect that normally prevents alien-hand syndrome and uncoordinated hand-motor behavior.*



# BLOOD SUPPLY

- *The internal carotid artery network provides arterial blood supply to a majority of the corpus callosum, specifically via the pericallosal artery (a branch of the anterior cerebral artery).*
- *The splenium is the exception as it receives vascular input from the vertebrobasilar system.*





# PATHOLOGIES

- *The most common pathology associated with the corpus callosum is multiple sclerosis.*
- *Corpus callosum lipomas*
- *Ruptured aneurysms in the anterior cerebral or pericallosal arteries.*
- *Marchiava-Bignami disease involves acute demyelination and necrosis of the corpus callosum.*



# MCQ

**Question:**

**Q.) Association fibres are all except?**

- A.) *Uncinate*
- B.) *Cingulum*
- C.) *Longitudinal fasciculus*
- D.) *Forceps major of corpus callosum*

**Ans - D.) Forceps major of corpus callosum**