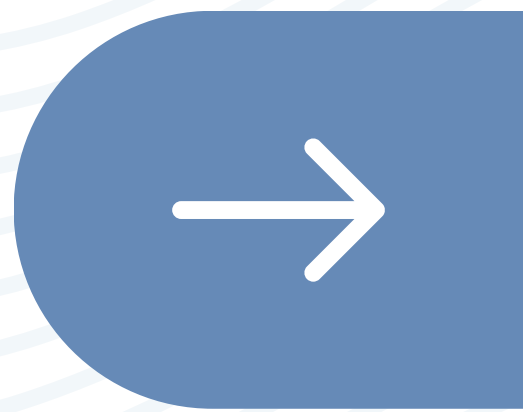


#DIBS BY NEXTILLO

DAILY INFORMATION BULLETIN SERVICE

INTERNAL CAPSULE





#DIBSBYNEXTILLO

DAILY INFORMATION BULLETIN SERVICE

INTERNAL CAPSULE

The internal capsule (IC) is a subcortical white matter structure situated in the inferomedial portion of each cerebral hemisphere. It is composed of myelinated ascending and descending fiber tracts that course past the basal ganglia to connect the cerebral hemispheres with subcortical structures, the brainstem, and the spinal cord. As it traverses the basal ganglia structures, it divides the caudate nucleus and thalamus from the putamen and globus pallidus.



IMAGES

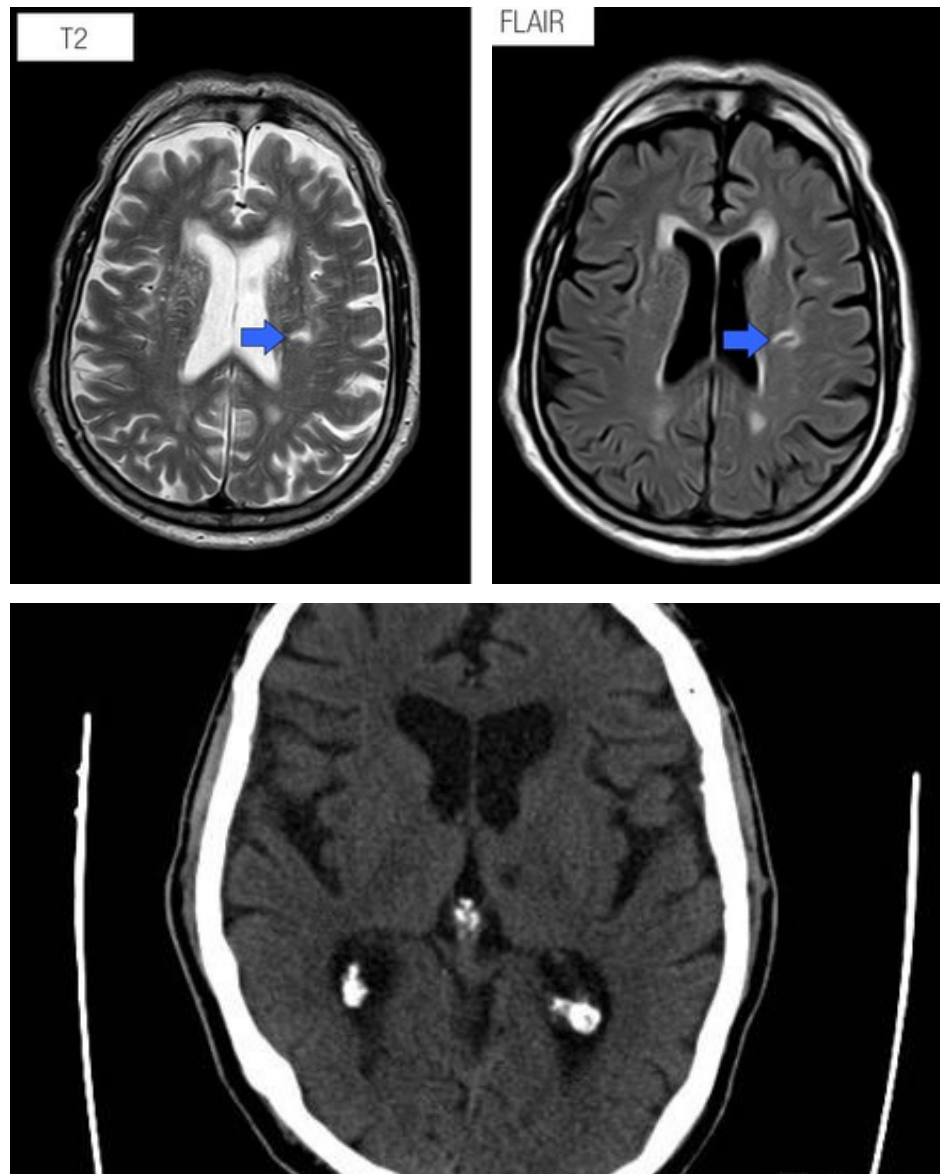
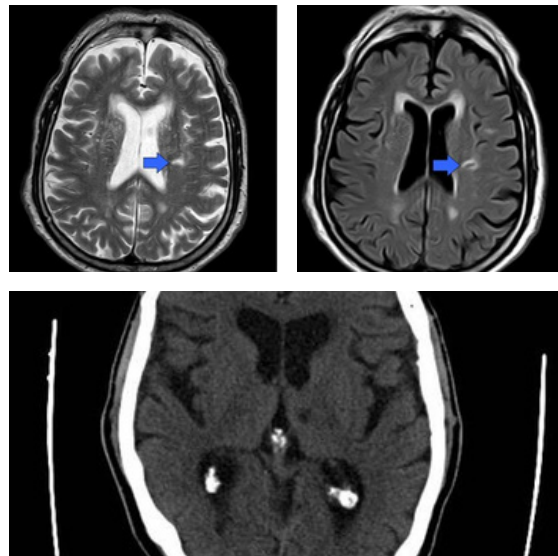




IMAGE DESCRIPTION



- *Lacunar strokes primarily affect the deep structures of the brain, such as the putamen, caudate nucleus, thalamus, and internal capsule.*
- *These deep strokes usually have an absence of cortical deficits such as seizures, aphasia, agnosia, and dysgraphia.*
- *Classic lacunar stroke syndrome that arises from internal capsule lesions are pure motor strokes, ataxic hemiparesis, and clumsy hand-dysarthria*
- *The initial CT/MRI is also useful in ruling out life-threatening conditions such as intracerebral hemorrhage or herniation.*
- *Typically, tissue plasminogen activator may be administered within 3 to 4.5 hours of stroke onset if the patient is without contraindications.*



STRUCTURE AND FUNCTION

- ***The internal capsule is a two-way tract for the transmission of information to and from the cerebral cortex.***
- ***The lentiform nucleus forms the lateral bounds of the internal capsule, while the thalamus and caudate form the medial bounds.***
- ***fibers of the internal capsule arrange in a radiating pattern known as the corona radiate.***
- ***The fibers become even more densely packed as they continue past the basal ganglia, forming the basis pedunculi at the midbrain.***



EMBRYOLOGY

- ***The internal capsule is a part of the telencephalon during embryologic development.***
- ***the origin of the telencephalon traces to the ectoderm, one of three germinal layers that form in the developing embryo.***
- ***During embryogenesis, the notochord induces a strip of the ectoderm to form the neural plate.***
- ***Further signaling from the notochord induces neurulation.***



ARTERIAL SUPPLY

- ***Each section of the internal capsule receives vascular supply from perforating branches of the main cerebral arteries.***
- ***The superior levels of the anterior limb, genu, and posterior limb get their supply from perforating arteries of the middle cerebral artery.***
- ***The inferior levels of the anterior limb Heubner artery and perforating arteries anterior cerebral artery.***



MCQ

Question:

Vascular dementia is seen in?

- A.) Parkinson's disease*
- B.) Alzheimer's disease*
- C.) Huntington chorea*
- D.) Lacunar stroke*

Ans - D.) Lacunar stroke