Middle Cerebral Artery

The middle cerebral artery is one of the three major paired arteries that supplies blood to the cerebral cortex. The middle cerebral arteries arise from the internal carotid and continue into the lateral sulcus where it then branches and projects to many parts of the lateral cerebral cortex. They are not considered a part of the Circle of Willis. Occlusion of the middle cerebral artery can lead to paralysis or weakness of the contralateral face and arm as well as sensory loss of the contralateral face and arm. Damage to the dominant hemisphere, which is usually the left hemisphere, can also result in aphasia. Damage to the superior division, which supplies the lateroinferior frontal lobe, damages Broca’s area and affects language expression. The inferior division supplies the lateral temporal lobe and affects Wernicke’s area, causing defects in language comprehension. Damage to the non-dominant hemisphere, usually the right hemisphere, can also cause contralateral hemi-neglect syndrome, characterized by a deficit in attention and awareness of one side of space.

PLAY PICMONIC

Contralateral paralysis upper limb and face

Arm in Sling and Droopy Face on Opposite-side of brain damage

Occlusion of the middle cerebral artery can lead to paralysis or weakness of the contralateral face and arm due to involvement of the primary motor cortex.

Contralateral loss of sensation of upper limb and face

Arm and Face with Pins-and-needles on Opposite-side of brain damage

Occlusion of the middle cerebral artery can lead to contralateral loss of sensation of the upper limb and face due to involvement of the primary sensory cortex.

Affects Wernicke's area and Broca's area

Worm-Mickey and Barack Obama

The middle cerebral artery supplies blood to Wernicke's and Broca's regions in the brain. Damage to the superior division, which supplies the lateroinferior frontal lobe, damages Broca's area and affects language expression. The inferior division supplies the lateral temporal lobe and affects Wernicke's area, causing defects in language comprehension.

Aphasia if Lesion in Dominant (Left) Hemisphere

Fish with Aphasia on L-shaped Dominoes

Damage to the dominant hemisphere, which is usually the left hemisphere, can result in aphasia. Damage to the superior division, which supplies the lateroinferior frontal lobe, damages Broca's area and affects language expression. The inferior division supplies the lateral temporal lobe and affects Wernicke's area, causing defects in language comprehension.

Hemineglect if lesion in nondominant (right) hemisphere

Person with screen over Left-side of body labeled R

Hemineglect is a neuropsychological condition in which a deficit in attention to and awareness of one side of space is observed after damage to one side of the brain. It is characterized by the inability of a person to process and perceive stimuli on one side of the body or environment.