



## LECTURE

# Anterior Circulation Stroke Syndromes

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### Abstract

Acute cerebral ischaemic disease is one of the most frequently observed neurological conditions that physicians must face and is associated with high rates of mortality and morbidity.

A stroke may occur whenever there is a lack of oxygen delivery to the neurons of a certain brain region, namely due to a stenotic atherosclerotic plaque or a migrating thrombus originated in the heart or in a proximal vessel, which travels to occlude a smaller artery.

Strokes are typically classified based on their topography as affecting the anterior circulation (ACS), the vascular territory supplied by the carotid arteries, or the posterior circulation, the basilar artery territory. The internal carotid arteries supply the majority of both cerebral hemispheres even though the anterior and posterior circulations largely communicate at a vessel structure named circle of Willis.

Ischaemic strokes occurring in the anterior circulation account for approximately 70% of the cases. ACS may be caused by occlusion of carotid, middle cerebral arteries, anterior ce-

rebral arteries or one of their branches. The initial clues for revealing the affected vascular territory are given by the detailed clinical history and neurological examination. Patients typically present with sudden onset of focal neurological symptoms, including one or a combination of the following: contralateral hemiparesis and/or sensory loss, a visual field defect (hemianopia/quadrantanopia), forced gaze deviation towards the lesion site, aphasia (dominant hemisphere) and neglect syndrome (non-dominant hemisphere), depending on the stroke size and location. A transitory monocular loss of vision (amaurosis fugax) and a limb-shaking syndrome are usually an indicator of carotid disease. More extensive or bilateral strokes can result in a comatose state.

In this session, the main signs and symptoms of strokes affecting the anterior/carotid circulation will be presented since the prompt recognition of these symptoms, both by the patients and physicians, allows the earlier institution of therapeutic strategies leading to better outcomes.

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