

# Stroke

## Definition:

Stroke is a medical emergency characterized by sudden loss of brain function due to interruption of blood supply (ischemic stroke) or rupture of blood vessels (hemorrhagic stroke).

## Etiopathogenesis:

- Ischemic stroke: Caused by thrombus or embolus obstructing cerebral arteries.
- Hemorrhagic stroke: Due to rupture of intracranial vessels, often linked to hypertension, aneurysm, or trauma.

## Clinical Manifestations:

- Sudden weakness or numbness of face, arm, or leg (usually one side).
- Difficulty in speaking or understanding speech.
- Sudden vision loss in one or both eyes.
- Dizziness, loss of coordination, imbalance.
- Severe sudden headache (especially in hemorrhagic stroke).

## Non-Pharmacological Management:

- Immediate hospitalization and supportive care.
- Lifestyle modifications: smoking cessation, reduced alcohol intake, healthy diet, exercise.
- Physiotherapy and occupational therapy for rehabilitation.

## Pharmacological Management:

- Ischemic stroke: Thrombolytics (tPA), antiplatelet drugs (aspirin, clopidogrel), anticoagulants (warfarin, DOACs).
- Hemorrhagic stroke: Blood pressure control, osmotic agents (mannitol) for intracranial pressure, surgical intervention if needed.
- Long-term: Statins, antihypertensives, antidiabetic agents for risk reduction.

# Migraine

## Definition:

Migraine is a chronic neurological disorder characterized by recurrent, moderate-to-severe headaches, often unilateral and pulsating, associated with nausea, photophobia, or phonophobia.

## Etiopathogenesis:

- Abnormal neuronal activity leading to cortical spreading depression.
- Neurovascular dysfunction with release of vasoactive neuropeptides (e.g., CGRP, serotonin imbalance).
- Genetic predisposition and environmental triggers (stress, food, hormones).

## Clinical Manifestations:

- Prodrome: mood changes, irritability, food cravings.
- Aura (in some patients): visual disturbances (flashing lights, zig-zag lines), sensory symptoms.
- Headache phase: unilateral, throbbing pain lasting 4–72 hours, aggravated by physical activity.
- Associated symptoms: nausea, vomiting, sensitivity to light and sound.
- Postdrome: fatigue, irritability, difficulty concentrating.

## Non-Pharmacological Management:

- Identification and avoidance of triggers (stress, diet, lack of sleep).
- Regular sleep, hydration, and balanced diet.
- Stress management techniques: yoga, meditation, cognitive behavioral therapy.
- Biofeedback and relaxation therapy.

**Pharmacological Management:**

- Acute treatment: NSAIDs (ibuprofen, naproxen), triptans (sumatriptan, rizatriptan), antiemetics (metoclopramide).
- Preventive therapy: Beta-blockers (propranolol), antiepileptics (topiramate, valproate), antidepressants (amitriptyline), CGRP antagonists.
- Lifestyle and pharmacological prophylaxis are key in recurrent migraines.