



# Stroke and Migraines

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# Migraine Epidemiology

- ▶ Migraine is the most common neurological disorder, affecting 10% to 15% of the adult population.
- ▶ Up to a third of those with migraine experience **aura** before or during an attack.



# Different types of Aura and Symptoms

- ▶ Vision Disturbances: Seeing spots, flashes, zig zags, stars, or even losing sight for short periods of time.
- ▶ Sensory Changes: Feeling tingling or numbness in the face, body, hands, and fingers.
- ▶ Speech or Language Problems: Unable to produce the right words, slurring or mumbling words.
- ▶ Weakness on one side of the body
- ▶ Dizziness, a feeling of spinning (vertigo).

# The Migraine and Stroke Relationship

Ischemic strokes in migraine sufferers may be categorized as:

- ▶ Stroke occurring during the course of a typical migraine with aura attack (**migrainous infarction**).
- ▶ Stroke of other cause coexisting with migraine (**migraine-related stroke**).

# Migrainous infarction

- ▶ Is defined as a stroke that occurs during an attack of migraine with aura in which aura symptoms persist for >60 minutes.
- ▶ A stroke must be demonstrated by neuroimaging (CT scan, MRI) in the appropriate territory of symptoms.
- ▶ It accounts for 0.2% to 0.5% of all ischemic strokes.

# Migraine-related stroke

- ▶ Refers to any stroke that occurs in migraineurs.
- ▶ Its incidence rate ranges from 1.44/100,000 to 1.7/100,000 persons per year.
- ▶ The relative risk of ischemic stroke is doubled in people with migraine with aura compared with migraine-free individuals.
- ▶ Potential risk factors for ischemic stroke in migraine include younger (<45 years) age, female sex, smoking and oral contraceptive use.

# Hemorrhagic (bleeding) Stroke

- ▶ In addition to higher risk of ischemic stroke, migraineurs also have a risk for developing hemorrhagic stroke.
- ▶ Women's Health Study demonstrated increased risk for hemorrhagic stroke in women with active migraine with aura (adjusted HR 2.25, 95% CI 1.11-4.54).

# Management of Stroke in migraineurs

- ▶ It should be investigated and treated as any stroke in the young and should have the same approach for secondary stroke prevention, such as:
  - Cessation of oral contraceptive use and smoking
  - Daily intake of antiplatelet drugs.
  - Controlling weight, blood pressure, blood sugar and cholesterol.
- ▶ Ergot derivatives and triptans should be avoided.

# Additional considerations

- ▶ In patients with migraine with aura when vascular risk factors are present, consider avoiding estrogen based contraceptives (progestagen only can be used).
- ▶ Regular physical activity should be encouraged.
- ▶ After menopause, migraine is not a contraindication for the use of hormone replacement therapy, but stroke risk with hormone replacement therapy needs to be weighed-up.

# Red flags



- ▶ If you're over 40 and have never had a migraine, assume your pain is something more serious.
- ▶ If you get migraine and your aura symptoms or headaches seem different than what you've typically experienced, **get checked out**.
- ▶ If you think there's even the slightest chance you're having a stroke, **call 911 right away**.

**Thank you!**