EDITORIAL

"The Neurosurgeon and the Race Against Time: Reflections on World Stroke Day"

On 29th October, SKIMS joined the global medical community in observing World Stroke Day — an occasion dedicated to raising awareness about one of humanity's most devastating neurological emergencies. As part of the observance, I had the opportunity to present a talk on *"The Role of a Neurosurgeon in Stroke Care,"* highlighting how neurosurgical decisions, interventions, and innovations have become integral to modern stroke management.

Stroke remains one of the gravest challenges to global health — a catastrophe that strikes suddenly, transforming independent lives into struggles for survival and recovery. It is the second leading cause of death worldwide and a major cause of long-term disability. One in four people will suffer a stroke in their lifetime, and in India alone, stroke accounts for over 9.4 million deaths and 28 million disability-adjusted life years lost. These are not just numbers; they are a call to collective action across medical disciplines.

This year's World Stroke Day theme — *"Together We Can End Stroke"* — resonates strongly within a tertiary care institution like SKIMS. Stroke care is no longer confined to any single specialty. It is a multidisciplinary mission, demanding the collaboration of neurologists, neurosurgeons, neurointerventionists, neuroradiologists, intensivists, physiotherapists, occupational therapists, and hospital administrators, all united in a time-sensitive race to save the brain and preserve function.

Within this coordinated effort, the neurosurgeon occupies a pivotal position at several decision points. In ischemic stroke, our role spans both prevention and intervention — from carotid endarterectomy for the "source artery" to mechanical thrombectomy for large vessel occlusions. The endovascular revolution has redefined acute stroke treatment, achieving recanalization rates above 80% when performed within the therapeutic window.

Yet, even beyond vessel recanalization, neurosurgical care remains vital. When the infarcted brain swells beyond its limits — as in malignant middle cerebral artery infarction or cerebellar infarcts — a decompressive craniectomy can be lifesaving. Modern refinements, such as the hinge craniotomy, where the bone flap is left partially attached to allow for controlled expansion, exemplify the thoughtful evolution of technique — merging decompression with anatomical preservation.

In hemorrhagic strokes, the neurosurgeon's role becomes even more immediate — evacuating intracerebral hematomas, clipping aneurysms, decompressing posterior fossa bleeds, and stabilizing patients in extremis. Every case demands judgment — balancing surgical risk against natural history, and human hope against the harsh realities of cerebral injury.

At SKIMS, our neurosurgical practice has also embraced challenging entities, such as Moyamoya disease, a condition that uniquely bridges ischemic and hemorrhagic phenomena. Here, revascularization procedures such as encephaloduroarteriomyosynangiosis (EDAMS) and STA–MCA bypass have restored perfusion and hope to many patients, particularly children, in our valley.

Amid these diverse challenges, the unifying truth remains: **"Time is Brain."** Every minute of untreated stroke results in the loss of 1.9 million neurons and 14 billion synapses. The message of World Stroke Day is thus both scientific and moral — *to shorten that time, to act faster, and to act together.*

For the neurosurgeon, this day reinforces an identity that

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extends beyond the operating room. We are not only surgeons of the brain but also custodians of its survival and function. Our contribution — from early triage and decisive decompression to collaboration with neurology and rehabilitation teams — is central to the modern stroke care pathway.

Stroke care at its best is defined not by individual excellence but by collective efficiency. If we, as a community of caregivers, can bridge the few critical minutes between symptom onset and definitive treatment — whether through a scalpel, a catheter, or a clot-dissolving drug — then we honor both the science and spirit of World Stroke Day. In doing so, we restore not just lives, but livelihoods, independence, and human dignity.

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