

Changing Scenario of Stroke in Nepal

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Stroke is the third leading disease worldwide as per the global burden of disease study report of 2019.¹ In terms of Disability Adjusted Life Years (DALY), stroke has changed from fifth leading cause to third leading cause from 1990 to 2019 in Nepal with an increase of 32.4%.¹ In Nepal, in terms of cause of death in total population stroke has risen up from 12th position to 5th position in the span of 27 years.² This rise in trend of stroke signifies that morbidity and mortality of stroke is rising tremendously in recent years. Although the lifespan of Nepalese population has increased in the last twenty years, however this may not be the healthy number of lives added. Nepal has witnessed epidemiologic shift from communicable disease to non-communicable disease (NCD). Currently NCDs account for 42% of all deaths and are projected to cause 66.3% of all deaths by 2030.³ Stroke may be the major cause of death after ischemic heart disease.

The incidence and pattern of stroke is changing rapidly all over the world. Before twenty years the prevalence of stroke was highest in 59-62 years. In recent times, younger populations are also suffering from stroke. The mean age of stroke shifted to below 45 years in recent times mainly due to ischemic stroke with cardioembolic origin in male population.⁴ In a recent study done in our center, ischemic stroke accounted for 66% of all the stroke cases.⁵ In a study to explain the burden of stroke in Nepal published in 2012, the proportion of ischemic stroke was 63% and hemorrhagic stroke was 37%.⁶ However in another study done in 2018, 50.2% had hemorrhagic stroke.⁷ In coming years the proportion of both ischemic and hemorrhagic stroke may be similar. Male gender however has more prevalence compared to female gender throughout these time periods.

Smoking, hypertension, diabetes mellitus, dyslipidemia are the main known risk factors for stroke. Sedentary life, heavy consumption of alcohol, high fatty foods, lack of exercise and stressful life are increasing in recent times.⁷ Ironically Nepal being one of the least urbanized countries; is in the top ten fastest urbanizing countries in the world. This change in lifestyle is one of the major risk factors of stroke in coming years. Lack of awareness on these risk factors is still a major concern and with adequate awareness, the chances of stroke can be reduced.⁸ Global burden of disease study showed that 90.5% of stroke was attributable to modifiable risk factors.⁹ Minimizing risk factors is the main stay to prevent stroke.

Recent advancement of MR angiography (MRA) or CT angiography (CTA) of cerebral vessels can evaluate the thrombosed vessels beforehand and can be also a major tool for early detection of stroke. The concept of "Brain check" by doing MRA or CTA may be a popular and noninvasive tool for screening stroke. "The door to needle time" concept for thrombolysing therapy has also increased recently for ischemic stroke and has saved many lives. Similarly endovascular therapy like clot retraction technique is also available in Nepal and these techniques are quite rewarding.

Focus on awareness, screening and detection of cases and timely intervention are quintessential to address tsunami of stroke cases coming in near future. Medical personnel, patients and the general public should work together to make stroke a preventable disease. It might seem very difficult but not impossible.

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