EDITORIAL

Readiness of the Stroke Treatment in India – Still an Uphill Task!

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The advent of intravenous thrombolytic therapy in the mid-1990s saw a ground-breaking advancement in the management of acute ischemic stroke, a disease that was until then considered synonymous with disability.[1–3] Dr Camilo R Gomez, an American Neurologist, crowned the phrase "Time is brain" in 1993 to denote the urgency needed in the treatment of stroke patients.[4] It is, however, unfortunate, that even after four decades of the emergence of the concept of prompt penumbral salvage with intravenous thrombolysis in stroke, access to timely treatment in lower-middle-income countries (LMICs) such as India, remains a far-fetched target![5] While the world discusses advanced therapeutic interventions like endovascular therapy in stroke to reperfuse the brain, these options remain limited to a small population in the country who have access to the Tertiary Care Hospitals, with masses even unaware of the symptomatology of stroke for a timely recognition.

Shah et al., in their article 'Stumbling blocks to stroke thrombolysis: An Indian perspective' in the current issue of the journal, have tried to identify the factors that impede timely stroke intervention in the majority of stroke patients in the country.[6] They highlight how only a meagre 20% of all the patients at their Tertiary Care Hospital received thrombolysis. There are numerous reasons for this lack of achievement, and a comprehensive overhaul of attitudes and policies is urgently needed in the country.

The popular clamor in favor of quack remedies in the rural and suburban population at the outset of features of paralysis does the most harm; killing time that is the most valuable period in the treatment of stroke. The patients either fail to reach the health care facility or, even if they do, they are out of the window period necessary for the stroke intervention.[7] The general population, in many cases, is on the fence to recognize the subtle symptoms of stroke, especially when they are not associated with gross motor weakness of the arms or legs. Symptoms like aphasia, apraxia, limb ataxia, gaze palsy, or sensory impairment of the limbs do not usually raise an alarm in the general public, even if they are acute in onset. Large-scale general awareness campaigns are therefore the need of the hour to spread knowledge about the early cognizance of the features that may indicate a stroke.[8,9] Many 'stroke support groups and social media channels are working actively to disseminate information on this time-critical event, and are educating the public on how timely treatment of stroke can save lives, limit disability or prevent it altogether. Posters and standees indicating '**BEFAST** when a stroke happens' educate the public to act fast (Timely access to medical care) if any of the symptoms, like loss of **B**alance, sudden loss of vision in one or both **E**yes, **F**acial drooping, **A**rm/leg weakness, or **S**peech disturbances are noted. A continuous, intensive sensitization program for the general physicians, resident doctors, and paramedical staff in the periphery, along with the community at large, is the pressing priority to meet the challenge.

Apart from early recognition of symptoms, the healthcare staff needs to be educated to promptly refer patients to stroke-ready centers for treatment. And here lies the crux! In India, the primary health centers (PHCs) which have easy access for the rural population, can serve only in the stroke recognition and referral part, even with the best of efforts. These health centers, by way of the healthcare delivery model in the country, are not equipped with the desired infrastructure and personnel required for a primary stroke center. The patients, therefore, need to be transferred to a stroke care hospital, which in turn needs swift ambulance services, which by far are lacking in the country. The district-level hospitals, which are the closest draining health facility for the PHCs, need to be turned around, with a reinforcement of the existing radiology framework to enable a quick non-contrast computed tomography of the head in a patient with suspected stroke, and adequate physician training at providing prompt intravenous thrombolysis. Telemedicine may prove rewarding if implemented well in the periphery. Affordability of treatment is another matter at hand, due to the lack of national insurance policies in a resource-limited country like India, along with the huge public-private sector divide in the healthcare facilities.[10] Even after reaching the hospital, in-hospital delays should be minimized, by implementing well-organized workflows (stroke codes) to achieve the desired door to needle times.[11]

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Srivastava et al.[12] have distinctively described not only the barriers to the implementation of optimal stroke care in India but also the way forward to meet these challenges. They emphasize the instillation of a 'well-oiled machinery' to reduce critical time delays in stroke, through proper education and policy change.

Though there has been a tremendous thrust in the growth of stroke care in India in the past few years, a lot still remains to be achieved. Accepting these challenges and finding ways and means to overcome them, should take precedence in our future policies for the development of an effective stroke program.

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