Stroke in India

Incidence and prevalence
Stroke is a major health problem in India. A recent community survey in the eastern Indian city of Kolkata showed the prevalence rate of stroke to be 254 per 100,000 population. The average annual incidence rate of stroke in the same study was 145 per 100,000 persons per year. These rates, age standardised to world standard population, are similar to or higher than many Western nations. These rates are also much higher than those reported previously from other parts of India. Stroke burden in India has been rising in the last few decades, in contrast to developed countries, where stroke prevalence has decreased or plateaued.

Reasons for the rise of stroke burden in India
The reasons for a rise in stroke burden in India include smoking, increasing longevity, and changes in lifestyle accompanying urbanisation. In India, the average life expectancy rose from 41.2 years in 1951-1961 to 61.4 years in 1991-1996. Indians may also be genetically prone to stroke due to a high prevalence of the metabolic syndrome consisting of central obesity, high levels of triglycerides, and low levels of HDL cholesterol with or without glucose intolerance.

Studies of stroke risk factors in India
The Indian Council of Medical Research (ICMR), in 1989, found hypertension, diabetes mellitus, tobacco use and low concentration of normal haemoglobin, as the most important risk factors for ischaemic strokes. The World Health Organisation (WHO) Task Force Report on Stroke (1989), found hypertension, smoking, elevated blood lipid levels and diabetes as important modifiable risk factors for ischaemic stroke in India.

Stroke services in India
There are no organised stroke services in many parts of India. The government health planners have so far focused their attention mainly on diseases related to infection and malnutrition. Secondly, low educational levels adversely affect the risk identification process and the taking of appropriate steps for stroke prevention. In the last decade, about fifty stroke units have sprung up in various cities of India. However, the majority of Indians live in villages, who cannot afford even a CT scan of the brain. General practitioners provide most of the stroke-related care in India. Home and traditional treatment of stroke is also an accepted practice in the rural areas of India. Many strange culture-specific beliefs about stroke treatment are in existence, one of which is that a massage with pigeon’s blood can cure the paralysis.

Stroke thrombolysis in India
Tissue plasminogen activator (tPA) was only approved in 2006 for use in acute ischaemic stroke in India. At present approximately 15 stroke units in India use tPA. Thus far, approximately 400 patients have received intravenous tPA in different centres across the country. Intra-arterial thrombolysis therapy is being used in

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approximately 10 centres in India with good results. Most centres are in the private sector, although some government university hospitals have been running successful thrombolysis programs. The barriers towards stroke thrombolysis are due to a lack of infrastructure, lack of awareness and poor affordability. However, it is clear that hyperactive thrombolysis in acute ischaemic stroke is feasible in urban private and public sector tertiary hospitals and can be widely used if a greater number of dedicated stroke teams/Stroke units become available, and the cost of drugs is reduced.

Conclusion

Due to the increasing life span, urbanisation and changing life style, stroke is already a major public health problem in India. It is likely to assume epidemic proportion in the coming years and cause enormous strain on India’s limited health care resources. The thrombolytic therapy is available to very few people. The main national health planning strategy should be the primary prevention of stroke by controlling the major risk factors of hypertension, diabetes and smoking. Stroke registries need to be set up at community and hospital level to understand not only the risk factors but also various stroke subtypes and their short and long-term outcomes. Such efforts will go a long way in evolving health care policies for appropriate and cost effective preventive and treatment strategies for stroke in India.

References

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