

CHAPTER

16

Stroke Unit - Current Concepts

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Introduction

Three areas which should break down the walls of nihilistic thinking in stroke due to their evidence base are thrombolysis, antiplatelet agents and the concept of stroke unit.

There is marked variation in the level of care in stroke. In India stroke has been an orphan disease for very long time but this has to change in the future. It has been estimated that in every alternate second in the world one person gets a stroke. This is a colossal problem needing proper manpower and infrastructural facilities.

The first stroke unit in India was started by Prof. G. Arjundas in Chennai in the early 60's and he has done pioneering work in this field over the years. To date there are about 15-20 stroke units throughout the country, while there is need for at least 200-300 of such units. This is a major challenge for us in the future.¹

Type of stroke care

At present the following types of stroke units are recognized:

- a. Acute stroke unit and acute stroke intensive care
- b. Acute stroke team
- c. Stroke rehabilitation unit

- d. Comprehensive stroke unit.

Acute stroke unit and Acute stroke intensive care.

Usually a specified area in the hospital where acute stroke patients are admitted and if required thrombolysed and usually transferred within a week. It is an area of high activity for the Neurologist/Physician, Emergency Physician and the Neuro-radiologist and occasionally requiring a Neurosurgeon. The Nursing staff within this area needs to be highly efficient and should have a clear understanding of the concept of "Time is Brain". It is mandatory that all the working staff be familiar with the guidelines for thrombolysis as laid down by NINDS. The staff also needs specific training for detecting a deteriorating stroke and informing the consultant in a rapid and efficient way.

Acute stroke team

This is similar to the above approach except that no definite geographical area is utilized for stroke but the team goes to the patient anywhere in the hospital. The team may also have the capacity to go to any hospital in a short period of time.

Stroke rehabilitation unit

Looks after the patients usually a week after the acute event. The key players at this level are apart from the Neurologist/Physician the Physiotherapist,

Occupational and Speech therapist and the nursing staff. Some times a Psychiatrist or an Infectious disease specialist is required on a case by case basis.

Comprehensive stroke unit

Admits patients in the acute phase and looks after them through the chronic phase and involves the complete rehabilitation team.

Goals of stroke unit

The goals of the stroke unit are:

- Rapid, safe and effective Thrombolysis. In India the drug controller of India has approved Intravenous- TPA in selected cases of ischemic stroke since January 2006.
- Comprehensive patient assessment
- Hospital should lay down a proper policy for stroke patient management
- Multiple specialties should be involved in the patient care.
- Proper guidelines for education and research.
- Proper certification and accreditation of the stroke unit by an organization like the American stroke association.

Minimum Infrastructure for an effective stroke unit

The following facilities should be available 24/7 in the stroke unit.

- Emergency admission facility
- CT Scan
- Routine laboratory work up to detect metabolic or hematological abnormalities
- Ability to thrombolysed the patients of ischemic stroke
- Rehabilitation facilities
- Team of Neurologist, Physician, Neuroradiologist, Neurosurgeon, Physiotherapist and occupational therapist with the nursing staff.

It has been proposed that since a multidisciplinary approach is required, a hospital which serves about 1-2 lakh population and gets at least 10-20 acute stroke cases for thrombolysis every year should consider setting up a stroke unit.

Evidence of efficacy

The stroke unit trialist collaboration 2007 has analyzed 31 trials and 6936 patients who were assigned to either stroke unit or non stroke unit care.² They concluded- “Stroke patients who receive organized in patient care in a stroke unit are most likely to be active, independent and moving at home one year after stroke. The benefits were most apparent on units based in a discrete ward. No systematic increase was observed in the length of in patient stay.” The number needed to treat to prevent and death was 32 and to prevent one patient from being unable to live at home was sixteen.³ A recent analysis⁴ showed that stroke unit care was associated with statistically significant reduction in stroke progression/recurrence and in complications like the chest infection or other infections.

Conclusion

The time is now ripe to create a paradigm shift from our country and start looking at stroke units as the next step in the routine care. In a developing country like ours, certainly the cost benefit analysis will also have to be done in the future so that we can best use our limited resources.

References

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