Ah, I see you have the machine that goes “ping!” This is my favorite.

—The Meaning of Life (1983)

When the Monty Python comedy film parodied the use of medical technology they raised an important point; doctors are easily seduced by new technology and need to look critically at what is in the best interests of their patients. Therefore, our key question here, what is the best pathway of care for this man at this time?, should be informed using the best available clinical evidence. There is no evidence that an ambulance journey improves stroke recovery, and there are good grounds to think that it may be harmful, so we should try to meet this man’s immediate care needs in the admitting hospital. However “the devil is in the detail” about exactly what kind of stroke unit care is available in the community hospital. By examining this man’s pathway of care and considering his care objectives we can see that he is unlikely to benefit from immediate transfer to a comprehensive stroke center:

Recanalization: This man has presented too late for intravenous thrombolysis and there is currently no randomized evidence to indicate that he would benefit from mechanical clot retrieval.¹

Decompressive surgery: He is at some risk from malignant middle cerebral artery syndrome but his National Institutes of Health Stroke Scale is at the lower end of the range considered eligible for decompressive surgery² and supportive care is likely to be his best option. However, it is important to be able to monitor his progress appropriately and respond if his condition changes (see below).

Stroke unit care: This is likely to be the key intervention for promoting this man’s early recovery. An individual with this level of stroke severity will have a greatly increased chance of survival (≈10% absolute improvement) and a more modest increase in the chance of regaining some independence if he is managed in a properly run stroke unit.³ Does he require transfer to a comprehensive center to receive this care? The answer is no—providing that the community hospital has certain key components in place³:

- adequate levels of nursing, medical, and therapy staff who have a knowledge and interest in the essential components of stroke management,
- multidisciplinary model of working involving regular team meetings to plan his care,
- standard protocols to monitor and manage common complications (including raised intracranial pressure), and
- close involvement of carers and family in his early rehabilitation.

It is important to remember that the stroke unit is the central, effective service component of a comprehensive stroke center and, as long as these key elements can be delivered in the community hospital, there is little reason for an early transfer.

Preventing early complications: A major component of stroke unit care is the prevention of complications. However, most of these can be met in a standard stroke unit setting with adequate staffing and protocols in place. For example:

- dysphagia management is effective with trained nursing and speech and language therapy input,⁴
- monitoring for common complications (such as pyrexia, hypoxia, hyperglycemia, or hypovolemia) can be achieved with trained nursing staff and relatively modest technological support,⁵
- management of specific complications such as chest infection, urinary tract infection, or deep vein thrombosis can usually be managed well in a community hospital setting.

Preventing stroke recurrence: A key factor in this man’s history is the presence of a significant symptomatic carotid artery stenosis which, if other aspects of his medical condition do not preclude it, would require early surgical intervention. However, this would not be an emergency procedure but should be done within the next 2 weeks if his clinical condition permits. This would not require an immediate transfer to a comprehensive stroke center.
In summary, the best management for this man is to admit him to a well run stroke unit provided in the local community. This unit would need to have adequate numbers of skilled staff who are able to manage the common problems and complications in a patient with acute stroke and to have the capacity for rapid transfer if his condition was to deteriorate (or he requires carotid artery surgery). The only proven effective service component of a comprehensive stroke center is the stroke unit and if that can be provided in the community hospital then that is the best option for his care.

Disclosures

None.

References


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Early Transfer of Patients With Stroke to Comprehensive Stroke Centers Is Not Necessary
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