Stroke Is Best Managed by a Neurologist: Battle of the Titans

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The world was created out of chaos. Early after the first immortals appeared on the scene, the titan Cronus and his brothers defended themselves against the future gods of Olympus for dominion, and lost. The titans were imprisoned in the bowels of the earth, while the victorious Olympian gods ascended, bringing new values and concepts into the world. —Greek mythology

The Clinical Argument

The deficit in stroke is neurological but the cause is vascular, complications are medical, and treatment should be multidisciplinary: no single aspect is overriding. Stroke patients require holistic care, expertly delivered. Neither American nor European stroke management guidelines mandate that a neurologist should deliver care.1,2 Let us examine the neurologist’s potential role in the patient journey.

Clinical Assessment

Although management is rarely influenced directly, lesion localization may be a specialist neurology task. The accuracy of clinical localization improves with the seniority of the neurologist, but modern cerebral imaging is supplanting this role. Severity scales are well applied by stroke nurses.3 Disability assessment is not the sole province of neurologists; indeed, few have undergone formal training in Rankin, Barthel, FIM, etc. Vascular risk factor assessment can be ably undertaken by internists and cardiologists: serious concomitant disease is typically cardiovascular.

Investigation

Stroke clinicians can order CT or MRI scans and learn to interpret stroke signs on imaging.4 The various ultrasound tests are often performed by technicians or specialist radiology staff. Few tests needed for TOAST classification directly involve the brain.5 The increasing use of protocols further limits the role of the diagnostician.

Differential Diagnosis

This is the primary argument used to support neurologist involvement.6 While the common differential diagnoses for stroke patients attending neurology departments include other neurological conditions, these form the minority of alternate diagnoses for patients presenting via emergency departments, TIA clinics, and specialist stroke wards.7 Just as neurologists are judged able to diagnose noneurological stroke mimics such as syncope, hypoglycemia, hyponatremia, acute confusion due to drugs, or sepsis, so internists and ER staff can identify epilepsy, migraine, tumor, transient global amnesia, encephalitis, etc.

Early Management

The general measures of early management (fluids, blood pressure, oxygenation, plasma glucose, temperature, feeding, mobilization) may best be delivered by an internist. Safe thrombolysis requires specialist training, but neither the trials nor the registers supporting its use have identified any systematic safety or efficacy benefit from delivery by a neurologist as compared with a generic stroke specialist.

Complications and Concomitant Disease

Management of common stroke complications, such as aspiration pneumonia, dysphagia, pulmonary embolism, urinary tract infection, and hip fractures, has limited neurological aspects. The concomitant conditions are typically cardiovascular, eg, peripheral vascular disease, angina, heart failure.

Rehabilitation

A multidisciplinary team approach is proven to improve functional outcome and survival after stroke. Remarkably few of the Stroke Unit Trialists were neurologists.8

Secondary Prevention

Secondary prevention is a long-term activity. Few neurologists play a direct practical role in management of blood pressure or atrial fibrillation, use of statins, PFO closure, carotid stenting, or endarterectomy.

The Historical and Geographical Argument

Stroke management has developed variously in different countries. For example, UK neurologists traditionally declined interest in stroke or epilepsy, leaving acute stroke management to internists with input from geriatricians for rehabilitation. A shortage of neurologists precludes rapid reversal of this trend. Even in countries with a stronger vascular neurology tradition, elderly patients infrequently are admitted to acute neurological wards. Rehabilitation facilities are rarely under neurological supervision. Demographic changes in developed countries will increase the need for future stroke physicians to manage comorbid conditions and complications of the elderly.
The Future: Tartarus or Olympus?
Instead of sterile arguments over the optimal parent specialty, we need clinicians with expertise across the disease spectrum, able to manage the whole patient. The UK has established a subspecialty training system that may be a model for other countries. We recognize that stroke is a developing field, that interest is arising from many parent specialties, and that services—and future jobs—develop through local need. We accept that enormous benefits will accrue from sharing care across traditional specialty boundaries. We believe that existing training programs neglect aspects of stroke care, but propose to manage these inherent weaknesses by supplementing exposure to missing elements during an additional 1 to 2 years’ stroke subspecialty training. A similar program, termed vascular neurology, has recently been announced in the United States. By implication, general neurologists may offer more restricted stroke care.

Conclusions
The stroke world is no longer in chaos. The titan Caplan and his brother neurologists are right to defend their essential contribution to stroke management, but few neurologists have enough breadth of training to manage stroke comprehensively. Stroke specialists are needed, irrespective of their background. These specialists are the future Olympian gods, bringing new values and concepts; those who cling to the old order of parent specialty will join the titans in Tartarus.

References

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