

Acute stroke management – exciting times ahead

Sri Lanka Journal of Neurology, 2015, **4**, 1

Past decade made significant progress in acute stroke management. Wider use of thrombolysis in acute ischaemic stroke, place of surgery in intracerebral bleeds, organization of better acute stroke services, use of newer anticoagulants, and most recently the recognition of the efficacy of endovascular thrombectomy in appropriate cases of acute ischaemic strokes are some of these significant advances.

Latter part of 2015 saw the publication of five major trials that conclusively showed that endovascular thrombectomy improves outcomes in patients with disabling acute ischaemic strokes caused by a proximal intracranial vessel occlusion. This followed the publication in 2013 of three thrombectomy trials (IMS III, SYNTHESIS Expansion and MR RESCUE) using early generation devices that showed no improvement in outcomes. The latter five studies used a more modern device – retrievable stents. MR CLEAN a Dutch trial was the first of these to complete and it enrolled 500 patients who received the intervention within six hours of onset. CT angiography was used to select the patients with a thrombus in the distal intracranial internal carotid artery or M1/M2 branches of middle cerebral artery. Only about 10% of all stroke patients would fall into this category. Functional independence was seen in 33% of patients in the endovascular arm vs 19% in the control group. About 90% in both groups received intravenous thrombolysis. The other four trials ESCAPE, EXTEND-IA, SWIFT PRIME, REVASCAT were terminated early when interim analyses demonstrated a clear difference in favour of thrombectomy. Majority of patients were treated within six hours in these trials. Therefore it is believed that endovascular treatment with retrievable stents should now be considered the standard of care for severe stroke patients similar to ones treated in these studies and that the hospital services should revise their treatment protocols to face this new challenge. To apply this treatment strategy to developing countries like ours will raise very important questions. Basic requirements for stroke management like stroke units and thrombolysis services are at a minimum in Sri Lanka despite the enthusiasm of practicing neurologists and initiatives taken by the Association of Srilankan Neurologists and the National Stroke Association, and one would wonder how feasible thrombectomy is going to be in our state hospitals. Success of thrombectomy would depend on many factors. They are, achieving the short window period of less than six hours, access to urgent CT angiogram with expertise in interpretation to select the correct patient, use of latest type of device because one reason for the failure of the earlier trials was the inappropriate devices used.

2015 also saw the publication of another interesting study on stroke rehabilitation. A Very Early Rehabilitation Trial (AVERT) is the largest randomized trial conducted in stroke rehabilitation to date. It compared very early mobilization within 24 hours after symptom onset with usual care. The trial compared a group of 1042 patients mobilized after 18.5 hours versus 1036 patients mobilized after 22.4 hours. The results were a surprise. The findings suggested that early rehabilitation may be worse than usual care. A favourable outcome (primary outcome = modified Rankin Scale 0-2) at 3 months was achieved in 46% of patients in the early and 50% of patients in the late mobilization group. These results have to be interpreted carefully because though the trial was of a high quality with a large cohort, the time difference between the two groups was only 4 hours, and 92% of patients in the early group and 59% in the control group were mobilized within the first 24 hours. Progression of the stroke in the early stages is also more likely to have occurred in the early group affecting their recovery. However these results should not lead to keeping patients in bed immobile and inactive for a prolonged period of time. Very early mobilization within 24 hours after stroke has to be considered with caution and should be avoided in those who are severely affected or had intracerebral haemorrhage.

Saman B Gunatilake

Editor