

Abstract 25: Late Functional Recovery After Lacunar Stroke: a Population-Based Prospective Cohort Study

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Abstract

Background: Non-acute interventions to enhance late stroke recovery are often tested initially in uncontrolled studies in patients with lacunar stroke owing to their low mortality and isolated motor deficits. It is often assumed that neurological recovery is near complete by 3 months after the stroke, but there have been few studies of the capacity for late recovery beyond 3 months.

Methods: In 3-month ischaemic stroke survivors of the Oxford Vascular Study (OXVASC; 2002-2014), we examined changes in functional status (modified Rankin Scale [mRS], Rivermead Mobility Index [RMI], Barthel Index [BI]) in lacunar versus non-lacunar strokes from 3-60 months post-stroke, stratifying by age. We used logistic regression adjusted for age/sex/baseline disability to compare recovery (≥ 1 mRS grades, ≥ 1 RMI points and/or ≥ 2 BI points), particularly from 3-12 months.

Results: Among 1,425 3-month survivors, the 234 lacunar stroke patients did not differ from others for outcome at 3 months (aOR for 3-month mRS >2 adjusted for age, sex, NIHSS, pre-stroke disability: 1.14, 95%CI 0.75-1.74, $p=0.55$). However, they were much more likely to demonstrate further recovery between 3 months and 1 year (aOR for mRS recovery adjusted for age, sex, and 3-month mRS: 1.64, 1.17-2.31, $p=0.004$). Results were similar on restricting the analysis to patients with 3-month mRS 2-4 (the range commonly recruited into recovery studies) and on excluding recurrent events (aOR for 1-year mRS recovery adjusted for age, sex, and 3-month-mRS: 2.28, 1.34-3.86, $p=0.002$). Similar results were seen with the BI and RMI (e.g. aOR for 1-year RMI recovery adjusted for age, sex, 3-month-RMI: 1.78, 1.20-2.64, $p=0.004$). There was no difference between lacunar and non-lacunar strokes in utilization of thrombolysis or hospital-based or further community-based rehabilitation services (NIHSS-adjusted OR: 0.97, 0.63-1.49, $p=0.88$).

Conclusions: Lacunar strokes have greater potential for late functional recovery from 3-12 months post-stroke, supporting the focus of studies of restorative therapies on this group. However, such studies cannot assume that improvements after 3 months are treatment-related, and should therefore be randomized and controlled.