

Dementia and hospital admission post-TIA and stroke: longitudinal population-based study A J

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Introduction: Dementia after Transient Ischaemic Attack (TIA)/stroke is associated with age, lesion burden and neurodegenerative disease but systemic factors including inflammation/infection may also play a role. We therefore determined associations between TIA/stroke-associated dementia and hospitalisation in a longitudinal study.

Methods: In a population-based study of TIA and stroke (Oxford Vascular Study/2002–12) multiple overlapping methods including face-to-face interview were used to ascertain dementia until death or 5 years follow-up. Frequency and characteristics of hospital admissions between index event and end follow-up were compared between patients with dementia versus those remaining dementia-free at 5-years using hospital diagnostic coding data adjusted for age and sex.

Results: Among 2305 patients (693 TIA/1478 ischaemic stroke/134 primary intracerebral haemorrhage), 657 (28.5%) were identified as having dementia. Patients with dementia were older (mean/SD 80.8/8.6 vs. 70.9/13.4, $P < 0.001$) and more likely to be female (60.6% vs. 46.7%, $P < 0.001$) than those without. During 5-year follow-up, there were 8861 admissions to the regional district hospital, of which 4157 (46.9%) were unplanned with 2931 (70.5%) of these being to medical specialities. Patients with dementia were more likely to have any hospital admission (adjusted OR = 2.24, 95%CI 1.66–3.01, $P < 0.001$) or any unplanned hospital admission (adjusted OR = 3.00, 2.32–3.88, $P < 0.001$) compared with patients without dementia, particularly for infection related illness (29.1% vs. 14.2%, adjusted OR = 1.99, 1.57–2.51, $P < 0.001$). About 890 (38.6%) of the 2305 patients were admitted to hospital at the time of their index event. Of which 116 (13.0%) also had an infection related illness, which tended to be more frequent in patients with dementia (16.0% vs. 11.3%, $P = 0.045$).

Conclusions: Patients with previous TIA/stroke who develop dementia, have more hospitalisations including unplanned admissions for acute medical illness. Further studies are required to determine whether acute illness, and particularly infection, are independent risk factors for cognitive decline after TIA/stroke.