

Associations Of Delirium With Different Dementia Subtypes: Cross-sectional ORCHARD-EPR Study

6089

Sarah Tamsin Pendlebury, Dimitrios Gratsias
Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom

AAIC 2026 • July 12–15, 2026 • London, United Kingdom



KEY TAKE AWAY

Delirium was strongly associated with all-cause dementia. Strength of associations were broadly similar for both neurodegenerative and vascular dementia which were stronger than for other/unspecified dementia.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS	REFERENCES
- Dementia and delirium share reciprocal relationships with each increasing the risk of the other. - Previous studies have suggested that a history of stroke, vascular disease, or stroke and small vessel disease on brain imaging, are risk factors for delirium. Delirium risk might therefore be preferentially increased in vascular dementia. - In the absence of previous studies, we examined the relationship between dementia subtypes (Alzheimer's, vascular and other/unspecified) and risk of delirium in large scale real-world data.	- The ORCHARD-EPR database includes all patients aged >65 years admitted as an emergency to four acute hospitals in Oxfordshire, UK. - The database includes a mandatory on-admission cognitive screen (≥70 years) via the EHR documenting dementia history, delirium diagnosis (holistic assessment and CAM: yes/no/uncertain), and the 10-point Abbreviated-Mental-Test. - Dementia/dementia subtype diagnoses are supplemented with hospital ICD-10 codes and linkage to electronic mental health data. - ORs for associations between delirium and all-cause dementia, and dementia subtypes, were determined using logistic regression adjusted for age and sex.	Cohort overview  54,306 first admissions (2017–2023)  6,917 had dementia  47,389 no dementia (reference)  Delirium assessment on admission Key findings Associations with delirium - All-cause dementia vs no dementia: OR 4.63 (95% CI 4.38–4.90), p<0.001 - Dementia subtypes vs no dementia: - Alzheimer's disease: OR 4.82 (95% CI 4.46–5.20), p<0.001 - Vascular dementia: OR 5.06 (95% CI 4.50–5.69), p<0.001 - Other/unspecified dementia: OR 4.25 (95% CI 3.92–4.62), p<0.001 - Pairwise comparisons between dementia subtypes: - Vascular vs other/unspecified dementia: Wald p=0.014 - Alzheimer's vs other/unspecified dementia: p=0.022 - Alzheimer's vs vascular dementia: p=0.469	- Delirium was strongly associated with all-cause dementia. - Strength of associations were broadly similar for both neurodegenerative and vascular dementia which were stronger than for other/unspecified dementia. - Limitations in dementia subtyping in large scale electronic health data may limit the ability to detect differences in risk associations between delirium and different dementia subtypes.	- Boucher-E J, Pendlebury ST, Bravo G, et al. The Orchard Cognitive Screening and Comorbidity Research Database-Electronic Patient Records (ORCHARD-EPR): protocol for a retrospective cohort study. BMJ Open. 2025;15:e094695. - Pendlebury ST, Thomson RJ, Welch SJV, Kuker W, Rothwell PM; Oxford Vascular Study. Utility of white matter disease and atrophy on routinely acquired brain imaging for prediction of long-term delirium risk: population-based cohort study. Age Ageing. 2022 Jan 6;51(1):afab200. - Boucher EL, Smith SC, Singh S, Shepperd S, Pendlebury ST. Prevalence of cognitive morbidity including delirium in 51,202 emergency hospital admissions across 29 medical and surgical specialties in ORCHARD-EPR: a cross-sectional study. EClinicalMedicine. 2025 Nov 24; 90:103641.
				CONTACT  Corresponding author: Sarah Tamsin Pendlebury Nuffield Department of Clinical Neurosciences University of Oxford Oxford, United Kingdom sarah.pendlebury@ndcn.ox.ac.uk