

Short-term Risk Of Dementia After Certain And Uncertain Delirium Diagnosis In A Large Real-world Dataset: ORCHARD-EPR Study

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KEY TAKE AWAY

In a large real-world cohort, both certain and uncertain delirium were associated with a similarly high short-term risk of developing dementia. Targeted follow-up and inclusion in dementia prevention trials are justified even when delirium diagnosis is uncertain.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS	REFERENCES				
- Delirium is predictive of future dementia and may be a modifiable risk factor, but there are few data from large real-world cohorts. - Our ORCHARD-EPR database accurately captures delirium at scale following Electronic Health Record (EHR) implemented cognitive screening. - We determined the predictive value of delirium for future dementia, including in cases of delirium diagnostic uncertainty.	- ORCHARD-EPR includes patients aged >65 years across four acute hospitals in Oxfordshire, UK. - Data include dementia history (yes/no/uncertain), delirium diagnosis (holistic assessment and CAM: yes/no/uncertain), and 10-point Abbreviated-Mental-Test supplemented with delirium ICD-10 codes. - Incident dementia diagnosis on follow-up was from readmission ICD-10 codes and linkage to individual patient mental health electronic data. - Hazard Ratios (HRs) for time to dementia were determined using Cox regression unadjusted and adjusted for age, sex, Charlson comorbidity index (CCI) and hospital frailty risk score (HFRS).	Cohort flow and key outcomes <table><tr><td>66,368 first admissions (2017–2023)</td><td>6,868 had dementia at baseline and were excluded</td><td>59,500 individuals included</td><td>1,321 (2.2%) developed dementia over mean 2.3 (1.9) years follow-up</td></tr></table> Key findings 7,230 (12%) individuals had delirium: 4,018 (5.8%) certain delirium (delirium=yes or ICD-10 code) 3,212 (4.2%) uncertain delirium (delirium=uncertain and no ICD-10 code) - Delirium (certain+uncertain) was associated with increased risk of dementia (unadjusted HR=3.24, 95% CI 2.7–3.7). - Associations were similar for certain (HR=3.22, 95% CI 2.78–3.73) and uncertain delirium (HR=3.25, 95% CI 2.7–3.8). - HRs attenuated after multivariable adjustment but remained significant (eg adjHR=2.10, 95% CI 1.83–2.40 for delirium overall).	66,368 first admissions (2017–2023)	6,868 had dementia at baseline and were excluded	59,500 individuals included	1,321 (2.2%) developed dementia over mean 2.3 (1.9) years follow-up	- Short-term dementia risk was similarly high in uncertain and certain delirium. - Delirium diagnostic uncertainty should not preclude patients from targeted follow-up or consideration for dementia prevention trials. - These findings support proactive identification and monitoring of delirium in acute care settings to enable early intervention and risk reduction.	- Inouye SK, Westendorp RG, Saczynski JS. Delirium in elderly people. <i>Lancet</i>. 2014;383(9920): 911–922. - Pendlebury ST, Menon DK, Rothwell PM. Prevalence, incidence, and factors associated with delirium in older people presenting with acute medical illness: a systematic review. <i>Age Ageing</i>. 2009;38(2): 151–157. - Witlox J, Eurelings LS, de Jonghe JF, et al. Delirium in elderly patients and the risk of postdischarge mortality, institutionalization, and dementia: a meta-analysis. <i>JAMA</i>. 2010;304(4):443–451. - Morandi A, Davis D, Bellelli G, et al. Delirium superimposed on dementia and risk of dementia progression: a systematic review and meta-analysis. <i>J Am Geriatr Soc</i>. 2017;65(3):556–563. CONTACT  Corresponding author: Sarah Tamsin Pendlebury Nuffield Department of Clinical Neurosciences University of Oxford Oxford, United Kingdom sarah.pendlebury@ndcn.ox.ac.uk
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