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Undiagnosed long-term cognitive impairment in acutely hospitalised older medical patients with delirium

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Appendix 1

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 Inouye SK, Westendorp RGJ, Saczynski JS. Delirium in elderly people. The Lancet. 2014;383(9920):911-22.

2. Siddiqi N, House AO, Holmes JD. Occurrence and outcome of delirium in medical inpatients: a systematic literature review. Age Ageing. 2006 Jul;35(4):350-64.

3. Witlox J, Eurelings LS, de Jonghe JF, Kalisvaart KJ, Eikelenboom P, van Gool WA. Delirium in elderly patients and the risk of postdischarge mortality, institutionalization, and dementia: a meta-analysis. JAMA. 2010 Jul 28;304(4):443-51.

 Bayer A. Chapter 52 - Presentation and Clinical Management of Dementia. In:
 Woodhouse HMFR, editor. Brocklehurst's Textbook of Geriatric Medicine and Gerontology (seventh Edition). Philadelphia: W.B. Saunders; 2010. p. 392-401.

 Sampson EL, Blanchard MR, Jones L, Tookman A, King M. Dementia in the acute hospital: prospective cohort study of prevalence and mortality. Br J Psychiatry. 2009 Jul;195(1):61-6.

6. Mecocci P, von Strauss E, Cherubini A, Ercolani S, Mariani E, Senin U, et al. Cognitive impairment is the major risk factor for development of geriatric syndromes during hospitalization: results from the GIFA study. Dement Geriatr Cogn Disord. 2005;20(4):262-9.

7. Sampson EL, Leurent B, Blanchard MR, Jones L, King M. Survival of people with dementia after unplanned acute hospital admission: a prospective cohort study. Int J Geriatr Psychiatry. 2013 Oct;28(10):1015-22.

8. Whittamore KH, Goldberg SE, Gladman JR, Bradshaw LE, Jones RG, Harwood RH. The diagnosis, prevalence and outcome of delirium in a cohort of older people with mental health problems on general hospital wards. Int J Geriatr Psychiatry. 2014 Jan;29(1):32-40. Ahmed S, Leurent B, Sampson EL. Risk factors for incident delirium among older people in acute hospital medical units: a systematic review and meta-analysis. Age Ageing. 2014 May;43(3):326-33.

10. Mitchell AJ, Shiri-Feshki M. Rate of progression of mild cognitive impairment to dementia--meta-analysis of 41 robust inception cohort studies. Acta Psychiatr Scand. 2009 Apr;119(4):252-65.

11. Kazmierski J, Banys A, Latek J, Bourke J, Jaszewski R, Sobow T, et al. Mild cognitive impairment with associated inflammatory and cortisol alterations as independent risk factor for postoperative delirium. Dement Geriatr Cogn Disord. 2014;38(1-2):65-78.

12. Rockwood K, Cosway S, Carver D, Jarrett P, Stadnyk K, Fisk J. The risk of dementia and death after delirium. Age Ageing. 1999 Oct;28(6):551-6.

 McCusker J, Cole M, Dendukuri N, Belzile E, Primeau F. Delirium in older medical inpatients and subsequent cognitive and functional status: a prospective study. CMAJ. 2001 Sep 4;165(5):575-83.

14. McCusker J, Cole M, Abrahamowicz M, Primeau F, Belzile E. Delirium predicts 12month mortality. Arch Intern Med. 2002 Feb 25;162(4):457-63.

15. White S, Calver BL, Newsway V, Wade R, Patel S, Bayer A, et al. Enzymes of drug metabolism during delirium. Age Ageing. 2005 Nov;34(6):603-8.

16. Laurila JV, Pitkala KH, Strandberg TE, Tilvis RS. Delirium superimposed on dementia predicts 12-month survival in elderly patients discharged from a postacute rehabilitation facility: a comment. J Gerontol A Biol Sci Med Sci. 2008 Oct;63(10):1124-5; author reply 5-6.

17. Ryan DJ, O'Regan NA, Caoimh RO, Clare J, O'Connor M, Leonard M, et al. Delirium in an adult acute hospital population: predictors, prevalence and detection. BMJ open. 2013 January 1, 2013;3(1). Meagher D, O'Regan N, Ryan D, Connolly W, Boland E, O'Caoimhe R, et al. Frequency of delirium and subsyndromal delirium in an adult acute hospital population. Br J Psychiatry.
 2014 Dec;205(6):478-85.

 Morandi A, Davis D, Fick DM, Turco R, Boustani M, Lucchi E, et al. Delirium superimposed on dementia strongly predicts worse outcomes in older rehabilitation inpatients. J Am Med Dir Assoc. 2014 May;15(5):349-54.

20. Bee Gek Tay L, Chew Chan MP, Sian Chong M. Functional improvement in hospitalized older adults is independent of dementia diagnosis: experience of a specialized delirium management unit. Journal of hospital medicine. 2013 Jun;8(6):321-7.

21. Inouye SK, van Dyck CH, Alessi CA, Balkin S, Siegal AP, Horwitz RI. Clarifying confusion: the confusion assessment method. A new method for detection of delirium. Ann Intern Med. 1990 Dec 15;113(12):941-8.

22. Hodkinson HM. Evaluation of a mental test score for assessment of mental impairment in the elderly. Age Ageing. 1972 Nov;1(4):233-8.

23. American Psychiatric Association. Diagnostic and statistical manual of mental disorders : DSM-IV-TR. Washington, DC: American Psychiatric Association; 2000.

24. Charlson ME, Pompei P, Ales KL, MacKenzie CR. A new method of classifying prognostic comorbidity in longitudinal studies: development and validation. J Chronic Dis. 1987;40(5):373-83.

25. Rockwood K, Song X, MacKnight C, Bergman H, Hogan DB, McDowell I, et al. A global clinical measure of fitness and frailty in elderly people. CMAJ. 2005 Aug 30;173(5):489-95.

26. Hsieh S, Schubert S, Hoon C, Mioshi E, Hodges JR. Validation of the Addenbrooke's Cognitive Examination III in frontotemporal dementia and Alzheimer's disease. Dement Geriatr Cogn Disord. 2013;36(3-4):242-50.

American Psychiatric Association. Diagnostic and statistical manual of mental disorders :
 DSM-IV. Washington, DC: American Psychiatric Association; 1994.

28. Winblad B, Palmer K, Kivipelto M, Jelic V, Fratiglioni L, Wahlund LO, et al. Mild cognitive impairment--beyond controversies, towards a consensus: report of the International Working Group on Mild Cognitive Impairment. J Intern Med. 2004 Sep;256(3):240-6.

29. von Elm E, Altman DG, Egger M, Pocock SJ, Gotzsche PC, Vandenbroucke JP, et al. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. J Clin Epidemiol. 2008 Apr;61(4):344-9.

30. Collins N, Blanchard MR, Tookman A, Sampson EL. Detection of delirium in the acute hospital. Age Ageing. 2010 Jan;39(1):131-5.

Maclullich AM, Anand A, Davis DH, Jackson T, Barugh AJ, Hall RJ, et al. New horizons
in the pathogenesis, assessment and management of delirium. Age Ageing. 2013 Nov;42(6):66774.

32. Russ TC, Shenkin SD, Reynish E, Ryan T, Anderson D, Maclullich AM. Dementia in acute hospital inpatients: the role of the geriatrician. Age Ageing. 2012 May;41(3):282-4.

33. Goldberg SE, Bradshaw LE, Kearney FC, Russell C, Whittamore KH, Foster PE, et al. Care in specialist medical and mental health unit compared with standard care for older people with cognitive impairment admitted to general hospital: randomised controlled trial (NIHR TEAM trial). BMJ. 2013;347:f4132.

34. Ellis G, Whitehead MA, Robinson D, O'Neill D, Langhorne P. Comprehensive geriatric assessment for older adults admitted to hospital: meta-analysis of randomised controlled trials. BMJ. 2011;343:d6553.

35. van de Glind EM, van Enst WA, van Munster BC, Olde Rikkert MG, Scheltens P, Scholten RJ, et al. Pharmacological treatment of dementia: a scoping review of systematic reviews. Dement Geriatr Cogn Disord. 2013;36(3-4):211-28.

 Burns A, Robert P. The National Dementia strategy in England. BMJ. 2009 Mar 10;338:b931. 37. Kmietowicz Z. Cameron launches challenge to end "national crisis" of poor dementia care. BMJ. 2012 2012-03-27 12:01:15;344:e2347.

38. Jackson TA, Naqvi SH, Sheehan B. Screening for dementia in general hospital inpatients:
a systematic review and meta-analysis of available instruments. Age Ageing. 2013 Nov;42(6):68995.