

Delirium Management in Coronary Intensive Care

Serap AYDIN¹

INTRODUCTION

Coronary intensive care is a special intensive care unit that provides services with devices and trained personnel that continuously monitor the heart functions of patients. Delirium is a common problem in coronary intensive care units and is associated with high mortality and morbidity rates. Therefore, delirium management is important in intensive care patients (1,2).

Delirium is a condition with an acute onset, fluctuating throughout the day, and usually worsening in the evening. Even if a healthy communication is established during the examination, the fact that cognitive functions can change within minutes can often cause the diagnosis to be missed or misdiagnosed (3).

In order to diagnose delirium, detailed anamnesis, psychiatric and neurological evaluation, physical examination findings and laboratory results should be considered as a whole. The patient's appearance, state of consciousness, thought and attention, speech, orientation, memory, reasoning power and behaviors require psychiatric evaluation according to DSM-V criteria (4). Since there are no psychiatrists in intensive care units, risky patient groups can be determined in advance thanks to the scales developed so that other health professionals can evaluate patients in terms of delirium (5).

Delirium management in coronary intensive care; It requires a multi-faceted approach that starts with the diagnosis and includes detection of etiological factors, treatment, regulation of environmental factors, and protection of the patient from delirium-related complications.

¹ MD, Ankara Bilkent City Hospital, Department of Psychiatry, serapozer23@yahoo.com, ORCID iD: 0000-0002-4328-8126

REFERENCES

1. Sharma A, Malhotra S, Grover S et al. Incidence, prevalence, risk factor and outcome of delirium in intensive care unit: a study from India. *Gen Hosp Psychiatry*. 2012;34:639-46. Doi: 10.1016/j.genhosppsych.2012.06.009
2. Inouye SK, Westendorp RG, Saczynski JS. Delirium in elderly people. *Lancet*. 2014;383:911-22. DOI: 10.1016/S0140-6736(13)60688-1
3. Gleason OC. Delirium. *Am Fam Physician*. 2003;67:1027-34.
4. Erbay Ö, Kelebek Girgin N. Measurement tools frequently used in the evaluation of delirium examination, *Journal of Uludag University Faculty of Medicine*. 2020;46(1):113-121. DOI: <https://doi.org/10.32708/uutfd.676518>
5. Doğu Ö, Kaya H. Delirium and nursing care in intensive care. *Journal Hum Rhythm*. 2017;3(2):81-84.
6. Deliryum. <https://www.etimolojiturkce.com/word/delirium>.
7. Wolraich ML, Hagan JF, Allan C et al. Clinical practice guideline for the diagnosis, evaluation, and treatment of attention-deficit/hyperactivity disorder in children and adolescents. *Pediatrics*. 2019;144:e20192528. DOI: 10.1542/peds.2019-2528
8. Setters B, Solberg LM. Delirium. *Prim Care*. 2017;44:541-59. DOI: 10.1016/j.pop.2017.04.010
9. Ely EW, Stephens RK, Jackson JC et al. Current opinions regarding the importance, diagnosis, and management of delirium in the intensive care unit: a survey of 912 healthcare professionals. *Critical care medicine*. 2004;32:106-12. DOI:10.1097/01.CCM.0000098033.94737.84
10. Trzepacz, P.T., Delirium. Advances in diagnosis, pathophysiology, and treatment. *Psychiatr Clin North Am*, 1996. **19**(3): p. 429-48. DOI: 10.1016/s0193-953x(05)70299-9
11. Flacker, J.M., et al., The association of serum anticholinergic activity with delirium in elderly medical patients. *Am J Geriatr Psychiatry*, 1998. 6(1): p. 31-41.
12. Mach JR Jr, Dysken MW, Kuskowski M, et al. Serum anticholinergic activity in hospitalized older persons with delirium: a preliminary study. *J Am Geriatr Soc* 1995; 43:491. DOI: 10.1111/j.1532-5415.1995.tb06094.x
13. Trzepacz PT. The neuropathogenesis of delirium. A need to focus our research. *Psychosomatics* 1994; 35:374. DOI: 10.1016/S0033-3182(94)71759-X
14. MacLulich, A. M., Ferguson, K. J., Miller, T., de Rooij, S. E. & Cunningham, C. Unravelling the pathophysiology of delirium: a focus on the role of aberrant stress responses. *J. Psychosom. Res.* 65, 229–238 (2008). DOI: 10.1016/j.jpsychores.2008.05.019
15. Deiner, S. et al. Human plasma biomarker responses to inhalational general anaesthesia without surgery. *Br. J. Anaesth.* DOI: 10.1016/j.bja.2020.04.085
16. Maldonado JR. Neuropathogenesis of delirium: review of current etiologic theories and common pathways. *Am J Geriatr Psychiatry*. 2013 Dec;21(12):1190–1222. DOI: 10.1016/j.jagp.2013.09.005
17. Kaya E, Sönmez S, Barlas F. Delirium. *European Archives of Medical Research*. 2013;29:70-74.
18. Kaplan&SadockClinik Book of Psychiatry 11th Edition, 698-699.
19. Mehta SR, Prabhu H, Swamy AJ, et al. Delirium tremens. *Med J Armed Forces India*. 2004;60:25-7., DOI: 10.1016/S0377-1237(04)80152-7
20. Kaplan&SadockClinik Book of Psychiatry 11th Edition,631
21. Rahman A, Paul M. Delirium tremens. In StatPearls [Internet]. Treasure Island (FL), StatPearls Publishing, 2021.
22. Ashla MFM. Deliryum. *Neurogy in clinical practice*, Boston. 2000;25-36.
23. Tuncer S, Bayraktar E, Özmen E. Delirium.Organic mental disorders. Ege University/İzmir. 1989;sy:1-27.
24. Işık E, Baysal Aİ. Deliryum. In: Organic Psychiatry. Işık E, Ankara 1999:167-185.

25. Özkan S. Delirium and dementia. *Psychiatric Medicine: Consultation – Liaison Psychiatry*. İstanbul 1993:27-33.
26. Lipowski ZJ. Delirium (acute confusional states). *JAMA*. Oct 1987;258(13):1789-1792.
27. Packard RC. Delirium. *Neurologist*. Nov 2001;7(6):327-340. DOI: 10.1097/00127893-200111000-00002
28. Heymann A, Sander M, Krahne D, et al. Hyperactive delirium and blood glucose control in critically ill patients. *Journal of International Medical Research* .Sep-Oct 2007;35(5):666-677. DOI: 10.1177/147323000703500511
29. Han JH, Zimmerman EE, Cutler N, et al. Delirium in Older Emergency Department Patients: Recognition, Risk Factors, and Psychomotor Subtypes. *Academic Emergency Medicine* 16 (3), 2009, 193-200. DOI: 10.1111/j.1553-2712.2008.00339.x
30. Voyer P, Cole MG, McCusker J, et al. Characteristics of institutionalized older patients with delirium newly admitted to an acute care hospital. *Clinical Effectiveness in Nursing*.2005;9:13-25. doi.org/10.1016/j.cein.2005.08.001
31. Peterson JF, Pun BT, Dittus RS et al. Delirium and its motoric subtypes: a study of 614 critically ill patients. *Journal of the American Geriatrics Society* 2006;54:479-484. DOI: 10.1111/j.1532-5415.2005.00621.x
32. Wong, C.L., et al., Does This Patient Have Delirium?: Value of Bedside Instruments. *JAMA*, 2010. 304(7): p. 779-786. DOI: 10.1001/jama.2010.1182
33. Marcantonio ER, Ngo LH, O'Connor M, et al. 3D-CAM: derivation and validation of a 3-minute diagnostic interview for CAM-defined delirium: a cross-sectional diagnostic test study. *Annals of Internal Medicine* 2014;161:554–61. DOI: 10.7326/M14-0865
34. Han, J. H., Wilson, A., & Ely, E. W. (2010). Delirium in the older emergency department patient: a quiet epidemic. *Emergency Medicine Clinics*, 28(3), 611-631. DOI: 10.1016/j.emc.2010.03.005
35. Erbay Ö, Kelebek Girgin N. Measurement tools frequently used in the evaluation of delirium examination, *Journal of Uludag University Faculty of Medicine*.2020;46(1):113-121. DOI: <https://doi.org/10.32708/uutfd.676518>
36. Janssen, N. J. et al. On the utility of diagnostic instruments for pediatric delirium in critical illness: an evaluation of the pediatric anesthesia emergence delirium scale, the delirium rating scale 88, and the delirium rating scale-revised R-98. *Intens*. DOI: 10.1007/s00134-011-2244-y
37. O'Mahony R, Murthy L, Akunne A, et al. Synopsis of the National Institute for Health and Clinical Excellence guideline for prevention of delirium. *Annals of internal medicine*. 011;154(11): 746-51. DOI: 10.7326/0003-4819-154-11-201106070-00006
38. Barr J, Fraser GL, Puntillo K, et al. Clinical practice guidelines for the management of pain, agitation, and delirium in adult patients in the intensive care unit. *Critical care medicine*. 2013;41(1):263-306. DOI: 10.1097/CCM.0b013e3182783b72
39. Francis J, Martin D, Kapoor WN. A prospective study of delirium in hospitalized elderly. *Jama*. 1990;263(8):1097-101.
40. Peterson JF, Pun BT, Dittus RS, et al. Delirium and its motoric subtypes: a study of 614 critically ill patients. *Journal of the American Geriatrics Society*. 2006;54(3):479-84. DOI: 10.1111/j.1532-5415.2005.00621.x
41. Schneider LS, Dagerman KS, Insel P. Risk of death with atypical antipsychotic drug treatment for dementia: meta-analysis of randomized placebo-controlled trials. *Jama*.

- 2005;294(15):1934-43. DOI: 10.1001/jama.294.15.1934
42. Flaherty JH, Gonzales JP, Dong B. Antipsychotics in the treatment of delirium in older hospitalized adults: a systematic review. *Journal of the American Geriatrics Society*. 2011;59:S269-S76. DOI: 10.1111/j.1532-5415.2011.03675.x
 43. Inouye SK, Zhang Y, Jones RN, et al. Risk factors for delirium at discharge: development and validation of a predictive model. *Archives of internal medicine*. 2007;167(13):1406-13. DOI: 10.1001/archinte.167.13.1406
 44. Cole MG, McCusker J, Bellavance F, et al. Systematic detection and multidisciplinary care of delirium in older medical inpatients: a randomized trial. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne*. 2002;167(7):753-9.
 45. Girard TD, Pandharipande PP, Carson SS, et al. Feasibility, efficacy, and safety of antipsychotics for ICU delirium: the MIND randomized, placebo-controlled trial. *Critical care medicine*. 2010;38(2):428. DOI: 10.1097/ccm.0b013e3181c58715
 46. Girard TD, Exline MC, Carson SS, et al. Haloperidol and ziprasidone for treatment of delirium in critical illness. *New England Journal of Medicine*. 2018;379(26):2506-16. DOI: 10.1056/NEJMoa1808217
 47. Breitbart W, Marotta R, Platt MM, et al. A double-blind trial of haloperidol, chlorpromazine, and lorazepam in the treatment of delirium in hospitalized AIDS patients. *Focus*. 2005;153(2):231-340. DOI: 10.1176/ajp.153.2.231
 48. Hakim SM, Othman AI, Naoum DO. Early Treatment with Risperidone for Subsyndromal Delirium after On-pump Cardiac Surgery in the Elderly A Randomized Trial. *Anesthesiology: The Journal of the American Society of Anesthesiologists*. 2012;116(5):987-97. DOI: 10.1097/ALN.0b013e31825153cc
 49. Mu JL, Lee A, Joynt GM. Pharmacologic agents for the prevention and treatment of delirium in patients undergoing cardiac surgery: systematic review and metaanalysis. *Critical care medicine*. 2015;43(1):194-204. DOI: 10.1097/CCM.0000000000000673
 50. Parellada E, Baeza I, Martínez G. Risperidone in the treatment of patients with delirium. *The Journal of clinical psychiatry*. 2004;65(3):348-53. DOI: 10.4088/jcp.v65n0310
 51. Hawkins SB, Bucklin M, Muzyk AJ. Quetiapine for the treatment of delirium. *Journal of hospital medicine*. 2013;8(4):215-20. DOI: 10.1002/jhm.2019
 52. Loneragan E, Britton AM, Luxenberg J. Antipsychotics for delirium. *Cochrane database of systematic reviews*. 2007(2). DOI: 10.1002/14651858.CD005594.pub2
 53. Campbell N, Boustani MA, Ayub A, et al. Pharmacological management of delirium in hospitalized adults—a systematic evidence review. *Journal of general internal medicine*. 2009;24(7):848-53. DOI: 10.1007/s11606-009-0996-7
 54. Devlin JW, Roberts RJ, Fong JJ, et al. Efficacy and safety of quetiapine in critically ill patients with delirium: a prospective, multicenter, randomized, double-blind, placebo-controlled pilot study. *Critical care medicine*. 2010;38(2):419-27. DOI: 10.1097/CCM.0b013e3181b9e302
 55. Carnes M, Howell T, Rosenberg M, et al. Physicians vary in approaches to the clinical management of delirium. *Journal of the American Geriatrics Society*. 2003;51(2):234-9. DOI: 10.1046/j.1532-5415.2003.51063.x
 56. Pandharipande P, Shintani A, Peterson J, et al. Lorazepam is an independent risk factor for transitioning to delirium in intensive care unit patients. *Anesthesiology: The Journal of the American Society of Anesthesiologists*. 2006;104(1):21-6. DOI: 10.1097/00000542-200601000-00005

57. Lonergan E, Luxenberg J, Areosa Sastre A, et al. Benzodiazepines for delirium. *The Cochrane database of systematic reviews*. 2009(1):Cd006379. DOI: 10.1002/14651858.CD006379.pub2
58. van Eijk MM, Roes KC, Honing ML, et al. Effect of rivastigmine as an adjunct to usual care with haloperidol on duration of delirium and mortality in critically ill patients: a multicentre, double-blind, placebo- controlled randomised trial. *The Lancet*. 2010;376(9755):1829-37. DOI: 10.1016/S0140-6736(10)61855-7
59. Bush SH, Tierney S, Lawlor PG. Clinical assessment and management of delirium in the palliative care setting. *Drugs*. 2017;77(15):1623-43. DOI: 10.1007/s40265-017-0804-3
60. Atalan N, Sevim ME, Akgün S, et al. Morphine is a reasonable alternative to haloperidol in the treatment of postoperative hyperactive-type delirium after cardiac surgery. *Journal of cardiothoracic and vascular anesthesia*. 2013;27(5):933- 8. DOI: 10.1053/j.jvca.2013.01.017
61. Platt MM, Breitbart W, Smith M, et al. Efficacy of neuroleptics for hypoactive delirium. *The Journal of neuropsychiatry and clinical neurosciences*. 1994. DOI: 10.1176/jnp.6.1.66
62. Breitbart W, Alici Y. Evidence-based treatment of delirium in patients with cancer. *Journal of Clinical Oncology*. 2012;30(11):1206. DOI: 10.1200/JCO.2011.39.8784