34. BÖLÜM

Kardiyovasküler ve Solunum Sistemi Cerrahisinin Nöro-Psikiyatrik Boyutu ve Bakım

Op. Dr. Murat Abdulhamit ERCİŞLİ
Dr. Semra BÜLBÜLOĞLU

KARDİYOVASKÜLER CERRAHİNİN NÖRO-PSİKİYATRİK BOYUTU

Geçici veya kalıcı iskemik inme dahil olmak üzere, nörolojik hasarlar kalp cerrahisinin önemli komplikasyonlarıdır. Bazı cerrahi teknikler nörolojik hasar riskini en aza indirmek için etkili olabilir. Bu tekniklere örnek olarak; pompasız koroner bypass greftleme, aort kapak cerrahisi sırasında hipotermi uygulaması, distal aort perfüzyonu ve torakoabdominal aort cerrahisinde beyin omurilik sıvısı drenajı verilebilir (1). Bu tekniklerin amacı; ameliyat sonrası bilişsel bozukluklar, demans, Travma Sonrası Stres Bozukluğu (TSSB) ve depresyon gibi önemli nöro-psikiyatrik sorunları önlemek; yaşam kalitesi ve konforu artırmak, hasta bağımsızlığını desteklemektir (2). Ayrıca; hastanın, klinik durumunun kötüleşmesi önlenmiş olur. Bu sayede ameliyat sonrası süreç daha rahat atlatılacağı için, hastanede kalış süreci ve morbidite, dolayısı ile mortalite azalır (3). Bahsi geçen cerrahi teknikler, hastaların sağlık bakım gereksinimini azaltır. Kurumlar ve sağlık çalışanları için daha az iş gücü ve emek anlamı taşır. Kardiyovasküler Cerrahi (KVC) ilişkili nöro-psikiyatrik bozuklukların mekanizması Şekil 34. 1.'de gösterilmiştir.

KVC ilişkili gelişen nöro-psikiyatrik bozukluklar açısından risk faktörleri; ameliyat öncesi dönemde var olan bilişsel işlev bozukluğu, önceden var olan nörolojik ve psikiyatrik hastalık öyküsü, ileri yaş, premorbid psikiyatrik bozukluklar olarak sıralanabilir (5,6).

Ameliyat Sonrası Bilişsel İşlev Bozukluğu

KVC sonrası bilişsel işlev bozukluğu; genellikle Şekil 34.1.'de yer alan süreçlerin gerçekleşmesi sonucunda ortaya çıkar. Serebral iskemik lezyonların bazen geri dönüşsüz olarak yerleşimi, emboliye bağlı gelişen iskemik inme ve beyin enfarktüsü sonucunda hasar oluşumu uzun ve kısa vadede nöro-psikiyatrik bulguların ortaya çıkmasına neden olur (7,8). Dolayısı ile ameliyat sonrası bilişsel durumu sıklıkla değerlendirmek, bahsi geçen sorunların tanılanması için önemli fikirler verebilir. Sağlık çalışanlarının bunu yapması için çeşitli hatırlatıcıların ve objektif bir değerlendirme olması için güvenilir değerlendirme araçlarının kullanımı çok önemlidir (11).

Bilişsel Durum Değerlendirme (BDD) araçları motor beceri, sözel hafıza, dikkat ve konsantrasyon yeteneğini ölçer. Eş zamanlı olarak depresyon, anksiyete düzeyi ve etkilerinin değerlendirilmesi, IQ testi, nörolojik muayene ve öğrenme yetisi değerlendirmesi ve ek takip testleri en az üç ay boyunca yapılmalıdır. KVC sonrası serebrovasküler hasar olduğu tespit edilmiş, ancak; bilişsel durumu etkilenmeyen, yani düşünme hafıza sorunları ve kafa karışıklığı yaşamayan hastalar olabileceği gibi (13); deliryum, dikkatte azalma, yönelim bozukluğu, kafa karışıklığı, uygunsuz davranış gösteren ve halüsinasyon yaşayan hastalar da olabilir (14). Yani KVC sonrası BDD yapıldığında gayet iyi görünen hastalarda da serebrovasküler hasar gelişmiş olabilir, ancak; nöro-psikiyatrik bulgu vermeyebilir.

cesi gerekli eğitimlerin verilmesi, nörolojik izlem ve sosyal izolasyonu önleyici aktiviteler olarak sıralanabilir.

Hastalara nöro-psikiyatrik durumda bozulma olduğuna ilişkin tanı konulduktan sonra, etyolojisinin araştırılması ve destekleyen faktörlerin ortadan kaldırılması gerekir. Destekleyen faktörler; ileri yaş, önceden var olan demans, koma, YBÜ'de kalma, acil cerrahi veya travma geçmişi, daha fazla hastalık şiddeti, kan transfüzyonlarının uygulanması, benzodiazepinlerin ve diğer sedasyon sağlayıcı ilaçların kullanımıdır. Ayrıca; hareketsizliğe neden olan fiziksel kısıtlamalar, sosyal izolasyon, uyku yoksunluğu ve aşırı ışık ve gürültü gibi çevresel faktörler de predispozan rol oynar.

Dolayısı ile; etkili çevre yönetimi, erken ayağa kaldırma ve mobilizasyon, fizyolojik destek girişimleri nöro-psikiyatrik sorunların yönetiminde anahtar rol oynar.

Hastalarda anksiyete, panik veya duygusal sorunların gelişiminde rol oynayan faktör dispne ise, solunum egzersizleri, gerektiğinde oksijen uygulaması, sakinleştirici meditasyon uygulamaları, rahat nefes alabileceği şekilde pozisyon verilmesi, odasının havalandırılması ve ilaçlarının zamanında verilmesi önemli birer gerekliliktir.

Tüm bunların dışında; çeşitli nörolojik sorunlar, inme, iskemi atakları, enfarktüs gibi sekel bırakması muhtemel sorunların, önceden veya en kısa süre içinde fark edilmesi yönetimi ve ilerlemesinin durdurulması bakımından çok önemlidir. Bunun için BDD yapılması, motor beceri, sözel hafıza, dikkat ve konsantrasyon yeteneğinin ölçülmesi gerekir. Eş zamanlı olarak depresyon, anksiyete düzeyi ve etkilerinin değerlendirilmesi, IQ testi, nörolojik muayene ve öğrenme yetisi ve ek takip testleri KVC sonrası en az üç ay boyunca yapılmalıdır.

KAYNAKLAR

1. Seco M, Edelman JJ, Van Boxtel B, Forrest P, Byrom MJ, Wilson MK, et al. Neurologic injury and protection in adult cardiac and aortic surgery. Journal of Cardiothoracic and Vascular Anesthesia 2015;29(1):185-95.
2. Phillips-Bute B, Mathew JP, Blumenthal JA, Grocott HP, Laskowitz DT, Jones RH, et al. Association of neurocognitive function and quality of life 1 year after coronary artery bypass graft (CABG) surgery. Psychosomatic Medicine 2006;68(3):369-75.
3. Steinmetz J, Christensen KB, Lund T, Lohse N, Rasmussen LS, Group I. Long-term consequences of postoperative cognitive dysfunction. Anesthesiology 2009;110(3):548-55.
4. van Harten AE, Scheeren TW, Absalom AR. A review of postoperative cognitive dysfunction and neuroinflammation associated with cardiac surgery and anaesthesia. Anaesthesia 2012;67(3):280-93.
5. Gao L, Taha R, Gauvin D, Othmen LB, Wang Y, Blaise G. Postoperative cognitive dysfunction after cardiac surgery. Chest 2005;128(5):3664-70.
6. Rao V, Lyketsos CG. Psychiatric aspects of traumatic brain injury. The Psychiatric Clinics of North America 2002;25(1):43-69.
7. Sun X, Lindsay J, Monsein LH, Hill PC, Corso PJ. Silent brain injury after cardiac surgery: a review: cognitive dysfunction and magnetic resonance imaging diffusion-weighted imaging findings. Journal of the American College of Cardiology 2012;60(9):791-7.
8. Caplan LR, Hennerici M. Impaired clearance of emboli (washout) is an important link between hypoperfusion, embolism, and ischemic stroke. Archives of Neurology 1998;55(11):1475-82.
9. Hogue Jr CW, Palin CA, Arrowsmith JE. Cardiopulmonary bypass management and neurologic outcomes: an evidence-based appraisal of current practices. Anesthesia and Analgesia 2006;103(1):21-37.
10. Grocott HP, Mackensen GB, Grigore AM, Mathew J, Reves JG, Phillips Bute B, et al. Postoperative hyperthermia is associated with cognitive dysfunction after coronary artery bypass graft surgery. Stroke; a Journal of Cerebral Circulation 2002;33(2):537-41.
11. Murkin JM, Newman SP, Stump DA, Blumenthal JA. Statement of consensus on assessment of neurobehavioral outcomes after cardiac surgery. The Annals of Thoracic Surgery 1995;59(5):1289-95.
12. Rudolph JL, Schreiber KA, Culley DJ, McGlinchey RE, Crosby G, Levitsky S, et al. Measurement of post-operative cognitive dysfunction after cardiac surgery: a systematic review. Acta Anaesthesiologica Scandinavica 2010;54(6):663-77.
13. Tsai TL, Sands LP, Leung JM. An Update on Postoperative Cognitive Dysfunction. Advances in Anesthesia 2010;28(1):269-84.
14. Inouye SK, van Dyck CH, Alessi CA, Balkin S, Siegal AP, Horwitz RI. Clarifying confusion: the confusion as-

sessment method. A new method for detection of delirium. Annals of Internal Medicine 1990;113(12): 941-8.

15. Newman MF, Mathew JP, Grocott HP, Mackensen GB, Monk T, Welsh Bohmer KA, et al. Central nervous system injury associated with cardiac surgery. Lancet 2006;368(9536):694-703.
16. Rudolph JL, Marcantonio ER, Culley DJ, Silverstein JH, Rasmussen LS, Crosby GJ, et al. Delirium is associated with early postoperative cognitive dysfunction. Anaesthesia 2008;63(9):941-7.
17. Fanning JP, Wong AA, Fraser JF. The epidemiology of silent brain infarction: a systematic review of population-based cohorts. BMC Medicine 2014;12:119.
18. Lee CS, Tkacs NC, Riegel B. The influence of heart failure self-care on health outcomes: hypothetical cardioprotective mechanisms. The Journal of Cardiovascular Nursing 2009;24(3):179-87.
19. Hajduk AM, Lemon SC, McManus DD, Lessard DM, Gurwitz JH, Spencer FA, et al. Cognitive impairment and self-care in heart failure. Clinical Epidemiology 2013;5:407-16.
20. Alosco ML, Spitznagel MB, Raz N, Cohen R, Sweet LH, Colbert LH, et al. Executive dysfunction is independently associated with reduced functional independence in heart failure. Journal of Clinical Nursing 2014;23(5-6):829-36.
21. Tully PJ, Baune BT, Baker RA. Cognitive impairment before and six months after cardiac surgery increase mortality risk at median 11 year follow-up: a cohort study. International Journal of Cardiology 2013;168 476 (3):2796-802.
22. Thombs BD, Bass EB, Ford DE, Stewart KJ, Tsilidis KK, Patel U, et al. Prevalence of depression in survivors of acute myocardial infarction. Journal of General Internal Medicine 2006;21(1):30-8.
23. Korgaonkar MS, Fornito A, Williams LM, Grieve SM. Abnormal structural networks characterize major depressive disorder: a connectome analysis. Biological Psychiatry 2014;76(7):567-74.
24. McKhann GM, Borowicz LM, Goldsborough MA, Enger C, Selnes OA. Depression and cognitive decline after coronary artery bypass grafting. Lancet 1997;349(9061):1282-4.
25. Connerney I, Shapiro PA, McLaughlin JS, Bagiella E, Sloan RP. Relation between depression after coronary artery bypass surgery and 12-month outcome: a prospective study. Lancet 2001;358(9295):1766-71.
26. Borowicz Jr L, Royall R, Grega M, Selnes O, Lyketsos C, McKhann G. Depression and cardiac morbidity 5 years after coronary artery bypass surgery. Psychosomatics 2002;43(6):464-71.
27. Peterson JC, Charlson ME, Williams-Russo P, Krieger KH, Pirraglia PA, Meyers BS, et al. New postoperative depressive symptoms and long-term cardiac outcomes after coronary artery bypass surgery. The American Journal of Geriatric Psychiatry: official journal of the American Association for Geriatric Psychiatry 2002;10(2):192-8.
28. Stenman M, Holzmann MJ, Sartipy U. Relation of major depression to survival after coronary artery bypass grafting. The American Journal of Cardiology 2014;114(5):698-703.
29. Ho PM, Masoudi FA, Spertus JA, Peterson PN, Shroyer AL, McCarthy Jr M, et al. Depression predicts mortality following cardiac valve surgery. The Annals of Thoracic Surgery 2005;79(4):1255-9.
30. Tully PJ, Baker RA, Winefield HR, Turnbull DA. Depression, anxiety disorders and Type D personality as risk factors for delirium after cardiac surgery. The Australian and New Zealand Journal of Psychiatry 2010; 44(11):1005-11.
31. Humphreys JM, Denson LA, Baker RA, Tully PJ. The importance of depression and alcohol use in coronary artery bypass graft surgery patients: risk factors for delirium and poorer quality of life. Journal of Geriatric Cardiology 2016;13(1):51-7.
32. Baumeister H, Hutter N, Bengel J. Psychological and pharmacological interventions for depression in patients with coronary artery disease. The Cochrane Database of Systematic Reviews 2011;(9):CD008012.
33. Tully PJ, Cardinal T, Bennetts JS, Baker RA. Selective serotonin reuptake inhibitors, venlafaxine and duloxetine are associated with in hospital morbidity but not bleeding or late mortality after coronary artery bypass graft surgery. Heart, Lung and Circulation 2012;21(4):206-14.
34. Xiong GL, Jiang W, Clare R, Shaw LK, Smith PK, Mahaffey KW, et al. Prognosis of patients taking selective serotonin reuptake inhibitors before coronary artery bypass grafting. The American Journal of Cardiology 2006;98(1):42-7.
35. Stenman M, Holzmann MJ, Sartipy U. Antidepressant use before coronary artery bypass surgery is associated with long-term mortality. International Journal of Cardiology 2013;167(6):2958-62.
36. Floyd TF, Shah PN, Price CC, Harris F, Ratcliffe SJ, Acker MA, et al. Clinically silent cerebral ischemic events after cardiac surgery: their incidence, regional vascular occurrence, and procedural dependence. The Annals of Thoracic Surgery 2006;81(6):2160-6.
37. Fanning JP, Wesley AJ, Wong AA, Fraser JF. Emerging spectra of silent brain infarction. Stroke; a Journal of Cerebral Circulation 2014;45(11):3461-71.
38. Barber PA, Hach S, Tippett LJ, Ross L, Merry AF, Milsom P. Cerebral ischemic lesions on diffusion-weighted imaging are associated with neurocognitive decline after cardiac surgery. Stroke; a Journal of Cerebral Circulation 2008;39(5):1427-33.
39. Restrepo L, Wityk RJ, Grega MA, Borowicz Jr L, Barker PB, Jacobs MA, et al. Diffusion- and perfusion-weighted magnetic resonance imaging of the brain before and after coronary artery bypass grafting surgery. Stroke; a Journal of Cerebral Circulation 2002;33(12):2909-15.
40. Ishikawa H, Meguro K, Ishii H, Tanaka N, Yamaguchi

S. Silent infarction or white matter hyperintensity and impaired attention task scores in a nondemented population: the Osaki-Tajiri Project. Journal of Stroke and Cerebrovascular Diseases: the official journal of National Stroke Association 2012;21(4):275-82.

41. Knipp SC, Matatko N, Schlamann M, Wilhelm H, Thielmann M, Forsting M, et al. Small ischemic brain lesions after cardiac valve replacement detected by diffusion-weighted magnetic resonance imaging: relation to neurocognitive function. European Journal of Cardio-Thoracic Surgery: official journal of the European Association for Cardio-Thoracic Surgery 2005;28(1):88-96.
42. Knipp SC, Kahlert P, Jokisch D, Schlamann M, Wendt D, Weimar C, et al. Cognitive function after transapical aortic valve implantation: a single centre study with 3-month follow-up. Interactive Cardiovascular and Thoracic Surgery 2013;16(2):116-22.
43. Wasser K, Pilgram-Pastor SM, Schnaudigel S, Stojanovic T, Schmidt H, Knauf J, et al. New brain lesions after carotid revascularization are not associated with cognitive performance. Journal of Vascular Surgery 2011;53(1):61-70.
44. Avdibegovic E, Becirovic E, Selimbasic Z, Hasanovic M, Sinanovic O. Cerebral cortical atrophy and silent brain infarcts in psychiatric patients. Psychiatria Danubina 2007;19(1-2):49-55.
45. Yamashita H, Fujikawa T, Yanai I, Morinobu S, Yamawaki S. Cognitive dysfunction in recovered depressive patients with silent cerebral infarction. Neuropsychobiology 2002;45(1):12-8.
46. Fujikawa T, Yamawaki S, Touhouda Y. Incidence of silent cerebral infarction in patients with major depression. Stroke; a Journal of Cerebral Circulation 1993;24(11):1631-4.
47. Direk N, Koudstaal PJ, Hofman A, Ikram MA, Hoogendijk WJ, Tiemeier H. Cerebral hemodynamics and incident depression: the Rotterdam Study. Biological Psychiatry 2012;72(4):318-23.
48. Bakker SL, de Leeuw FE, de Groot JC, Hofman A, Koudstaal PJ, Breteler MM. Cerebral vasomotor reactivity and cerebral white matter lesions in the elderly. Neurology 1999;52(3):578-83.
49. Fujikawa T, Yamawaki S, Touhouda Y. Silent cerebral infarctions in patients with late-onset mania. Stroke; a Journal of Cerebral Circulation 578 1995;26(6):946-9.
50. Cassidy F, Carroll BJ. Vascular risk factors in late onset mania. Psychological Medicine 2002;32(2):359-62.
51. Tamashiro JH, Zung S, Zanetti MV, de Castro CC, Vallada H, Busatto GF, et al. Increased rates of white matter hyperintensities in late-onset bipolar disorder. Bipolar Disorders 2008;10(7):765-75.
52. Beyer JL, Young R, Kuchibhatla M, Krishnan KR. Hyperintense MRI lesions in bipolar disorder: A meta-analysis and review. International Review of Psychiatry 2009;21(4):394-409.
53. Vermeer SE, Prins ND, den Heijer T, Hofman A, Koudstaal PJ, Breteler MM. Silent brain infarcts and the risk of dementia and cognitive decline. The New England Journal of Medicine 2003;348(13):1215-22.
54. Prins ND, van Dijk EJ, den Heijer T, Vermeer SE, Koudstaal PJ, Oudkerk M, et al. Cerebral white matter lesions and the risk of dementia. Archives of Neurology 2004;61(10):1531-4.
55. Debette S, Markus HS. The clinical importance of white matter hyperintensities on brain magnetic resonance imaging: systematic review and meta-analysis. BMJ 2010;341:c3666.
56. Schelling G, Richter M, Roozendaal B, Rothenhausler HB, Krauseneck T, Stoll C, et al. Exposure to high stress in the intensive care unit may have negative effects on health-related quality-of-life outcomes after cardiac surgery. Critical Care Medicine 2003;31(7):1971-80.
57. Schelling G, Roozendaal B, Krauseneck T, Schmoelz M, D DEQ, Briegel J. Efficacy of hydrocortisone in preventing posttraumatic stress disorder following critical illness and major surgery. Annals of the New York 602 Academy of Sciences 2006;1071:46-53.
58. Beishuizen A, Thijs LG, Vermes I. Patterns of corticosteroid-binding globulin and the free cortisol index during septic shock and multitrauma. Intensive Care Medicine 2001;27(10):1584-91.
59. Cooper MS, Stewart PM. Corticosteroid insufficiency in acutely ill patients. The New England Journal of Medicine 2003;348(8):727-34.
60. Schelling G, Kilger E, Roozendaal B, de Quervain DJ, Briegel J, Dagge A, et al. Stress doses of hydrocortisone, traumatic memories, and symptoms of posttraumatic stress disorder in patients after cardiac surgery: a randomized study. Biological Psychiatry 2004;55(6):627-33.
61. Weis F, Kilger E, Roozendaal B, de Quervain DJ, Lamm P, Schmidt M, et al. Stress doses of hydrocortisone reduce chronic stress symptoms and improve health-related quality of life in high-risk patients after cardiac surgery: a randomized study. The Journal of Thoracic and Cardiovascular Surgery 2006;131(2):277-82.
62. McEwen BS. Mood disorders and allostatic load. Biological Psychiatry 2003;54(3):200-7.
63. Shemesh E, Yehuda R, Milo O, Dinur I, Rudnick A, Vered Z, et al. Posttraumatic stress, nonadherence, and adverse outcome in survivors of a myocardial infarction. Psychosomatic Medicine 2004;66(4):521-6.
64. Blachy PH, Starr A. Post-Cardiotomy Delirum. The American Journal of Psychiatry 1964;121:371-5.
65. Lin Y, Chen J, Wang Z. Meta-analysis of factors which influence delirium following cardiac surgery. Journal of Cardiac Surgery 2012;27(4):481-92.
66. Guenther U, Theuerkauf N, Frommann I, Brimmers K, Malik R, Stori S, et al. Predisposing and precipitating factors of delirium after cardiac surgery: a prospective observational cohort study. Annals of Surgery 2013;257(6):1160-7.

67. Gosselt AN, Slooter AJ, Boere PR, Zaal IJ. Risk factors for delirium after on-pump cardiac surgery: a systematic review. Critical Care 2015;19:346.,
68. Andrejaitiene J, Sirvinskas E. Early post-cardiac surgery delirium risk factors. Perfusion 2012;27(2):105-12.
69. Marcantonio ER, Goldman L, Orav EJ, Cook EF, Lee TH. The association of intraoperative factors with the development of postoperative delirium. The American Journal of Medicine 1998;105(5):380-4.
70. Stransky M, Schmidt C, Ganslmeier P, Grossmann E, Haneya A, Moritz S, et al. Hypoactive delirium after cardiac surgery as an independent risk factor for prolonged mechanical ventilation. Journal of Cardiothoracic and Vascular Anesthesia 2011;25(6):968-74.
71. Jackson JC, Gordon SM, Hart RP, Hopkins RO, Ely EW. The association between delirium and cognitive decline: a review of the empirical literature. Neuropsychology Review 2004;14(2):87-98.
72. Martin BJ, Buth KJ, Arora RC, Baskett RJ. Delirium: a cause for concern beyond the immediate postoperative period. The Annals of Thoracic Surgery 2012;93(4):1114-20.
73. Loponen P, Luther M, Wistbacka JO, Nissinen J, Sintonen H, Huhtala H, et al. Postoperative delirium and health related quality of life after coronary artery bypass grafting. Scandinavian Cardiovascular Journal 2008;42(5):337-44.
74. Milbrandt EB, Deppen S, Harrison PL, Shintani AK, Speroff T, Stiles RA, et al. Costs associated with delirium in mechanically ventilated patients. Critical Care Medicine 2004;32(4):955-62
75. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, 5th ed. Arlington, VA, American Psychiatric Publishing, 2013.
76. Parshall MB, Schwartzstein RM, Adams L, Banzett RB, Manning HL, Bourbeau J, et al. An official American Thoracic Society statement: update on the mechanisms, assessment, and management of dyspnea. Am J Respir Crit Care Med. 2012;185(4):435-52.
77. Meek PM, Banzett R, Parshall MB, Gracely RH, Schwartzstein RM, Lansing R. Reliability and validity of the multidimensional dyspnea profile. Chest. 2012;141(6):1546-53.
78. Wan L, Van Diest I, De Peuter S, Bogaerts K, Oyen N, Hombroux N, et al. Repeated experiences of air hunger and ventilatory behavior in response to hypercapnia in the standardized rebreathing test: effects of anxiety. Biol Psychol 2008;77(2):223-32.
79. Grant I, Adams KM. Neuropsychological assessment of neuropsychiatric and neuromedical disorders. 3rd ed. Oxford/New York: Oxford University Press; 2009. xvi, 742 p., 10 p. of plates p.
80. Dew MA, DiMartini AF, DeVito Dabbs AJ, Fox KR, Myaskovsky L, Posluszny DM, et al. Onset and risk factors for anxiety and depression during the first 2 years after lung transplantation. Gen Hosp Psychiatry. 2012;34(2):127-38.
81. Eslick GD, Talley NJ. Dysphagia: epidemiology, risk factors and impact on quality of life—a population-based study. Aliment Pharmacol Ther. 2008;27(10):971-9.
82. Hellstadius Y, Lagergren J, Zylstra J, Gossage J, Davies A, Hultman CM, et al. Prevalence and predictors of anxiety and depression among esophageal cancer patients prior to surgery. Dis Esophagus 2016;29(8):1128-34.
83. Hellstadius Y, Lagergren J, Zylstra J, Gossage J, Davies A, Hultman CM, et al. A longitudinal assessment of psychological distress after oesophageal cancer surgery. Acta Oncol. 2017;56(5):746-52.
84. Ozyurtkan MO, Yildizeli B, Kuscu K, Bekiroglu N, Bostanci K, Batirel HF, et al. Postoperative psychiatric disorders in general thoracic surgery: incidence, risk factors and outcomes. Eur J Cardiothorac Surg 2010;37(5):1152-7.
85. Deliryum: Akut Beyin İşlev Bozukluğu ve Bakım. Bülbüloğlu S. (1. Ed). Çukurova Nobel Tıp Kitabevi, Antalya, Türkiye, 2020, 99-112. (ISSN: 978-605-2369-29-6)