

COVID-19 HASTASINDA AĞRI YÖNETİMİ

15.

BÖLÜM

Zeynep GÜMÜŞKANAT TABUR¹

GİRİŞ

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), β -koronavirüs ailesine ait bir RNA virüsü olup, yaptığı Coronavirüs hastalığı 2019 (COVID-19) ile ciddi mortaliteye yol açarak küresel bir pandemiye neden olmuştur. Hastalık, asemptomatik enfeksiyondan hafif üst solunum yolu enfeksiyonu, ağır pnömoni, çoklu organ yetersizliği ve ölümlle sonuçlanabilen geniş bir klinik spektruma sahiptir (1). COVID-19 hastalığında, en sık görülen semptomlar; ateş, öksürük, dispne olmasına rağmen baş ağrısı, kas-eklem ağrısı, karın ağrısı da sıklıkla eşlik etmektedir (2). COVID-19'da ağrı; enfeksiyonunun ilk semptomu olabileceği gibi komplikasyonlarına bağlı gelişen sekonder kronik ağrı olarak, geçirilen acil cerrahi sonrası postoperatif ağrı ya da mevcut kronik ağrılı durumların alevlenmesi tabloları ile karşımıza çıkabilir. Uluslararası Ağrı Araştırmaları Teşkilatı (IASP)'e göre ağrı; vücudun herhangi bir yerinden kaynaklanan, gerçek veya olması muhtemel doku hasarına eşlik eden, emosyonel veya sensoriyel hoş olmayan bir duyum ve davranıştır (3). Ağrı, fizyolojik ve psikolojik komponentlerden oluşmaktadır. Pandemi dönemlerinde, sosyal izolasyon, ekonomik stres, hastalığa yakalanma korkusu, anksiyete ve depresyona eğilimi artırarak ağrı yönetimini zorlaştırmaktadır. Bu gibi kriz dönemlerinde; ağrı tedavisinde, farmakolojik ajanların yanında psikososyal ağrı yönetim uygulamalarından da yararlanılmalıdır (4).

Ağrı; başlama zamanına, oluş mekanizmasına, etyolojisine, kaynaklandığı bölgeye göre dört alt gruba ayrılabilir (5).

¹ Anesteziyoloji ve Reanimasyon Uzmanı, Bursa Şehir Hastanesi, ztabur19@gmail.com
Orcid No: 0000-0002-9678-6145

neuralji, dirençli kompleks bölgesel ağrı sendromu, akut küme baş ağrıları ve diğer inatçı baş ağrıları yarı acil prosedürler arasında olup her vaka ayrı ayrı değerlendirilmeli (39,37).

SONUÇ

Sonuç olarak; pandemi döneminde akut ve kronik ağrı tedavisinde bireylerin fiziksel, mental, psikolojik ve sosyal özellikleri göz önünde bulundurularak bireysel biyopsikososyal yaklaşımla, multimodal tedavi programlarının oluşturulması ağrı ile mücadeleyi kolaylaştırabilir.

KAYNAKÇA

1. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet*. 2020;395(10223):497-506.
2. Huang X, Wei F, Hu L, Wen L, Chen K. Epi- demiology and clinical characteristics of COVID-19. *Arc Iran Med*. 2020;23(4):268-71.
3. Merskey H, Albe Fessard D, Bonica JJ, Carmon A, Dubner R, Kerr FWL et al. Pain terms: a list with definitions and notes on usage. Recommended by the IASP subcommittee on taxonomy. *PAIN* 1979;6:249-52.
4. Song XJ, Xiong DL, Wang zY, Yang D, Zhou L, Li RC. Pain management during the COVID-19 pandemic in China: Lessons learned. *Pain Med*. 2020. doi: 10.1093/pm/pnaa143. Online ahead of print.
5. Erdine S. Ağrı Mekanizmaları İstanbul: Nobel Tıp Kitabevleri; 2007; 19-26.
6. Eti Z. Postoperatif Ağrı Tedavisi. Erdine S (ed.) Ağrı İstanbul Nobel Tıp Kitapevi, 2007;150-67.
7. Erdine S. Ağrı Mekanizmaları ve Ağrıya Genel Yaklaşım. In: Erdine S, editor. Ağrı. İstanbul: Nobel Tıp Kitabevleri; 2007;37- 49.
8. Chiu IM, Ribeiro F, Woolf CJ. Pain and infection: pathogen detection by nociceptors. *Pain*. 2016;157(6):1192. George E, Haspel KL. The difficult airway. *Int Anesthesiol Clin*. 2000;38(3). Doi: 10.1097/00004311-200007000-00005
9. Park CK, Xu zz, Berta T, Han Q, Chen G, Liu XJ, et al. Extracellular microRNAs activate nociceptor neurons to elicit pain via TLR7 and TRPA1. *Neuron*. 2014;82(1):47-54.
10. Huang L, Ou R, Souza GR, Cunha TM, Lemos H, Mohamed E, et al. Virus infections incite pain hypersensitivity by inducing indoleamine 2, 3 dioxygenase. *PLoS pathogens*. 2016;12(5):e1005615.
11. Coniam S, Mendham J: Assessment of the patient with Pain, *Principles of Pain Management for Anaesthetists*, Hadder Arnold, 2006:24-35
12. Farrar JT, Young JP Jr, LaMoreaux L. Clinical importance of changes in chronic pain intensity measured on an 11-point numerical pain rating scale. *Pain* 2001; 94: 149-158.
13. Hicks CL, von Baeyer CL, Spafford PA. The Faces pain scale revised. *Pain* 2001; 93: 173-183.
14. Pogatzki- Zahn E, Chandrasenab C, Schugbc SA. Nonopioid analgesics for postoperative pain management. *Curr Opin Anesthesiol* 2014;27(5):513-9.

15. Roberts E, Delgado Nunes V, Buckner S, Latchem S, Constanti M, Doherty M, et al. Paracetamol: not as safe as we thought? A systematic literature review of observational studies. *Annals of the rheumatic diseases*. 2016;75(3):552-9.
16. European Medicines Agency. EMA gives advice on the use of non-steroidal anti-inflammatories for COVID-19 <https://www.ema.europa.eu/en/news/ema-gives-advice-use-non-steroidal-antiinflammatories-covid-19> (Accessed on March 19, 2020).
17. Mikuls TR, Johnson SR, Fraenkel L, Arasaratnam RJ, Baden LR, Bermas BL, et al. American College of Rheumatology guidance for the management of adult patients with rheumatic disease during the COVID-19 pandemic. *Arthritis Rheumatol*. 2020. <https://doi.org/10.1002/art.41301>
18. Bacchi S, Palumbo P, Sponta A, Coppolino MF. Clinical pharmacology of non-steroidal anti-inflammatory drugs: a review. *Antiinflamm Antiallergy Agents Med Chem*. 2012;11(1):52-64.
19. Hoffmann M, Kleine-Weber H, Schroeder S, et al. SARS-CoV-2 cell entry depends on ACE2 and TMPRSS2 and is blocked by a clinically proven protease inhibitor. *Cell*. 2020;181:1-10.
20. Hofmann H, Geier M, Marzi A, Krumbiegel M, Peipp M, Fey GH, Gramberg T, Pohlmann S. Susceptibility to SARS coronavirus S protein-driven infection correlates with expression of angiotensin converting enzyme 2 and infection can be blocked by soluble receptor. *Biochem Biophys Res Commun*. 2004;319:1216-21.
21. Fang L, Karakiulakis G, Roth M. Are patients with hypertension and diabetes mellitus at increased risk for COVID-19 infection? *Lancet Respir Med*. 2020 Mar 11. pii: S2213-2600(20)30116-8. doi: 10.1016/S2213-2600(20)30116-8.
22. Day M. Covid-19: ibuprofen should not be used for managing symptoms, say doctors and scientists. *BMJ* 2020;368:m1086.
23. K. Willsher, Anti-inflammatories may aggravate Covid-19, France advises, *The Guardian* (2020).
24. Torjesen I. Ibuprofen can mask symptoms of infection and might worsen outcomes, says European drugs agency. *BMJ*. 2020;369: 1614.
25. Day M. Covid-19: ibuprofen should not be used for managing symptoms, say doctors and scientists. *BMJ*. 2020;368:1086.
26. Basille D, Thomsen RW, Madsen M, Duhaut P, Andrejak C, Jounieaux V, et al. Nonsteroidal antiinflammatory drug use and clinical outcomes of community-acquired pneumonia. *Am J Respir Crit Care Med*. 2018;198(1):128-31.
27. NICE. COVID-19 rapid evidence summary: acute use of non-steroidal anti-inflammatory drugs (NSAIDs) for people with or at risk of COVID-19. [ES23]. 14 Apr 2020. <https://www.nice.org.uk/advice/es23/chapter/Key-messages>.
28. EMA advice on the use of NSAIDs for Covid-19. *Drug Ther Bull*. 2020;58(5):69.
29. Day M. Covid-19: European drugs agency to review safety of ibuprofen. *BMJ*. 2020;368: 1168.
30. Yan, X., Hao, Q., Mu, Y., et al. Nucleocapsid protein of SARS-CoV activates the expression of cyclooxygenase-2 by binding directly to regulatory elements for nuclear factor-kappa B and CCAAT/enhancer binding protein. *Int J Biochem Cell Biol* 2006;38:1417-28.
31. Amici C, Di Caro A, Ciucci A., et al. Indomethacin has a potent antiviral activity against SARS coronavirus *Antiviral Therapy* 2006;11:1021-1030.
32. Chou R, Gordon DB, de Leon-Casasola OA et al. Management of Postoperative Pain: A Clinical Practice Guideline From the American Pain Society, the American Society

- of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists' Committee on Regional Anesthesia, Executive Committee, and Administrative Council. *J Pain*. 2016;17(2):131-57
33. Vallejo R, de Leon-Casasola O, Benyamin R. Opioid therapy and immunosuppression: a re-view. *Am J Ther*. 2004;11(5):354-65.
 34. Zajaczkowska R, Leppert W, Mika J, Kocot-Kępska M, Woron J, Wrzosek A, et al. Perioperative Immunosuppression and Risk of Cancer Progression: The Impact of Opioids on Pain Management. *Pain Res Manag*. 2018;2018:9293704. <https://doi.org/10.1155/2018/9293704>
 35. Haroutounian S. Postoperative opioids, endocrine changes, and immunosuppression. *Pain Rep*. 2018;3(2):e640. <https://doi.org/10.1097/PR9.0000000000000640>
 36. Plein LM, Rittner HL. Opioids and the immune system - friend or foe. *Br J Pharmacol*. Opioidler ve Bağışıklık Sistemi - Arkadaş veya Düşman PMID: 28213891 PMCID: PMC6016673 Doi: 10.1111 / bph.13750.
 37. Shanthanna H, Strand NH, Provenzano DA, Lobo CA, Eldabe S, Bhatia A, et al. Caring for patients with pain during the COVID-19 pandemic: Consensus recommendations from an international expert panel. *Anaesthesia*. 2020.doi: 10.1111/anae.15076.
 38. Suna AKIN TAKMAZ, Postoperatif Ağrı Tedavisinde Opioidler Türkiye Klinikleri J Anest Reanim-Special Topics 2017;10(2):106-20
 39. Harsha Shanthanna, MBBS, MD, MSc, FRCPC; Steven P. Cohen, MD; Natalie Strand, MD et al. ASRA/ESRA COVID-19 Guidance for Chronic Pain Practice A Joint Statement by American Society of Regional Anesthesia and Pain Medicine (ASRA) and European Society of Regional Anesthesia and Pain Therapy (ESRA) March 27, 2020
 40. Spacek A: Kombinations-Infusionsanalgesie: Eine alternative zur PCA. *Anesthesiol Intensivmed Notfallmed Schmerzther* 1999; 34: 363-6.
 41. Hauritz RW, Hannig KE, Henriksen CW, Børghlum J, Bjørn S, Bendtsen TF. The effect of perineural dexamethasone on duration of sciatic nerve blockade: a randomized, double-blind study 2018;62(4):548-57
 42. Corcoran T, Kasza J, Kisa TG ve diğerleri; ENIGMA-II Müfettişleri. İntraoperatif dekametazon, postoperatif yara enfeksiyonu riskini arttırmaz: ENIGMA-II çalışmasının post-hoc analiziyle uyumlu bir post-hoc analizi. *Br J Anaesth* 2017; 118 (2): 190-9.
 43. Wong SSY, Yuen K-Y. The management of coronavirus infections with particular reference to SARS. *J Antimicrob Chemother*. 2008;62(3):437-441. doi: 10.1093/jac/dkn243.
 44. Zhang X, Alekseev K, Jung K, et al. Cytokine responses in porcine respiratory coronavirus-infected pigs treated with corticosteroids as a model for severe acute respiratory syndrome. *J Virol*. 2008;82(9):4420-4428. doi: 10.1128/JVI.02190-07.
 45. Friedly JL, Comstock BA, Heagerty PJ, et al. Systemic effects of epidural steroid injections for spinal stenosis. *Pain*. 2018;159(5):876-83. doi: 10.1097/j.pain.0000000000001158.
 46. Van Boxem K, Rijdsdijk M, Hans G, et al. Safe use of epidural corticosteroid injections: recommendations of the WIP Benelux Work Group. *Pain Pract*. 2019;19(1):61-92. doi: 10.1111/papr.12709.
 47. Kayhan Z. Lokal Anestezikler. Klinik Anestezi. İstanbul Logos Yayıncılık; 2004: p. 503-23.
 48. Fozzard HA, Lee PJ, Lipkind GM. Mechanism of local anesthetic drug action on voltage-gated sodium channels. *Current pharmaceutical design*. 2005;11(21):2671-86.

49. Pasero C, Potenoy RK. Neurophysiology of pain and analgesi and the pathophysiology of neuropathic pain. In: Pasero C, McCaffery M, eds. Pain Assessment and Pharmacologic Management. St Louis, MO: Mosby Elsevier Inc; 2011:1-12.
50. Stahl SM, Porreca F, Taylor CP, Cheung R, Thorpe AJ, Clair A. The diverse therapeutic actions of pregabalin: is a single mechanism responsible for several pharmacological activities? *Trends Pharmacol Sci* 2013;34(6):332-9.
51. <http://www.fda.gov/news-events/fda-brief/fda-brief-fda-requires-new-warnings-gabapentinoids-about-risk-respiratory-depression>tard2020.
52. Horward R, Carter B, Curry J, Morton N, Rivett K, Rose M et al. Postoperative pain. *Paediatr Anaesth*. 2008;18 Suppl 1:36-63.
53. Wang Y, Sands L, Vaurio L, Mullen E, Leung, JM. The effects of postoperative pain and its management on postoperative cognitive dysfunction. *Am J Geriatr Psychiatry*. 2007;5(1), 50-9.
54. Clarke H, Poon M, Weinrib A, Katznelson R, Wentlandt K, Katz J. Preventive analgesia and novel strategies for the prevention of chronic post-surgical pain. *Drugs*. 2015,75(4):339-51
55. Uysal HY, Acar HV, Kaya A ve ark: Postoperatif Ağrı Tedavisinde Uygulanan Hasta-Kontrollü Analjezi Yöntemlerinin Retrospektif İncelenmesi. *J Clin Exp*, 2013;4: 159-165.
56. Lippi G, Plebani M, Henry BM. Thrombocytopenia is associated with severe coronavirus disease 2019 (covid-19) infections: A meta-analysis. *Clin Chim Acta*. 2020;13:145-8. doi: 10.1016/j.cca. 2020 .03.022.
57. Faculty of Intensive Care Medicine, Intensive Care Society, Association of Anaesthetists, The Royal College of Anaesthetists. Personal protective equipment (ppe) for clinicians. 2020;March 27. Available at: <https://icmanaesthesiacovid-19.org/personal-protective-equipment-ppe-for-clinicians> . Accessed March 30, 2020.
58. World Health Organization. Rational use of personal protective equipment for coronavirus disease 2019 (covid-19). 2020;Feb 27. Available https://apps.who.int/iris/bitstream/handle/10665/331215/WHO-2019-nCov-IPCPE_use-2020.1-eng.pdf . Accessed March 30, 2020.
59. Simonds AK, Hanak A, Chatwin M, et al. Evaluation of droplet dispersion during non-invasive ventilation, oxygen therapy, nebuliser treatment and chest physiotherapy in clinical practice: implications for management of pandemic influenza and other airborne infections. *Health Technol Assess*. 2010;14:131-72. doi: 10.3310/hta14460-02.
60. Van Doremalen N, Bushmaker T, Morris DH et al. Aerosol and surface stability of sars-cov-2 as compared with sars-cov-1. *N Engl J Med* 2020.
61. Uppal V, McKeen DM. Strategies for prevention of spinal-associated hypotension during cesarean delivery: Are we paying attention? *Can J Anaesth*. 2017;64:991-6. doi: 10.1007/s12630-017-0930-0.
62. El-Boghdadly K, Pawa A, Chin KJ. Local anesthetic systemic toxicity: Current perspectives. *Local Reg Anesth*. 2018;11:35-44. doi: 10.2147/LRA.S154512.
63. Source: Practice Recommendations on Neuraxial Anesthesia and Peripheral Blocks during the COVID-19 Pandemic, Uppal V, Sondekoppam RV, Lobo CA, Kolli S, Kalagara HKP. www.asra.com/covid-19/raguidance
64. Ayten BİLİR, Akut Ağrı ve Postoperatif Ağrı Tedavisinde Rejyonel Anestezinin Yeri Türkiye Klinikleri *J Anest Reanim-Special Topics* 2015;8(3):177-85).

65. Guan WJ, Ni ZY, Hu Y, et al. Clinical characteristics of coronavirus disease 2019 in China. *N Engl J Med*. <https://doi.org/10.1056/NEJMoa2002032>
66. Juan P, Stefano G, Antonella S, Albana C. Platelets in pregnancy. *J Prenat Med* 2011;5:90–2
67. Coronavirus (COVID-19) infection in pregnancy 2020. Available at: <https://www.rcog.org.uk/coronavirus-pregnancy> Accessed April 14, 2020
68. S. Bampoe, a P.M. Odor, a D.N. Lucasb. Novel coronavirus SARS-CoV-2 and COVID-19. Practice recommendations for obstetric anaesthesia: what we have learned thus far *International Journal of Obstetric Anesthesia* (2020) 43, 1–8. <https://doi.org/10.1016/j.ijoa.2020.04.006>
69. Brennan F, Carr D, Cousins M. Access to pain management-still very much a human right. *Pain Medicine* 2016; 17: 1785–9.
70. Fayaz A, Ayis S, Panesar SS, Langford RM, Donaldson LJ. Assessing the relationship between chronic pain and cardiovascular disease: a systematic review and meta-analysis. *Scandinavian Journal of Pain* 2016; 13: 76–90.
71. Hickie I, Davenport T, Wakefield D, Vollmer-Conna U, Cameron B, Vernon SD, Reeves WC, Lloyd A. Post-infective and chronic fatigue syndromes precipitated by viral and non-viral pathogens: prospective cohort study. *BMJ* 2006;333:575.
72. Moldofsky H, Patcai J. Chronic widespread musculoskeletal pain, fatigue, depression and disordered sleep in chronic post-SARS syndrome; a case-controlled study. *BMC Neurol* 2011;11:37.
73. Koster-Brouwer ME, Rijdsdijk M, van Os WK, Soliman IW, Slooter AJC, de Lange DW, et al. Occurrence and risk factors of chronic pain after critical illness. read online: *Crit Care Med*. 2020;48(5):680-7.
74. Marchand F, Perretti M, McMahon SB. Role of the immune system in chronic pain. *Nature Reviews Neuroscience* 2005; 6: 521–32
75. Eccleston C, Blyth FM, Dear BF, Fisher EA, Keefe FJ, Lynch ME. Managing patients with chronic pain during the COVID-19 outbreak: considerations for the rapid introduction of re- motely supported (eHealth) pain management services. *Pain*. 2020;161(5):889.
76. Benzon HT, Hurley RW, Deer T, et al. Chronic pain management. In: Barash PG, Cullen BF, Stoelting RK, et al. eds. *Clinical Anesthesia*. 7th ed. Philadelphia: Lippincott Williams & Wilkins; 2013: 1645-1671.
77. Mehta P, McAuley DF, Brown M, et al. COVID-19: consider cytokine storm syndromes and immunosuppression. *Lancet*. 2020 Mar 16. pii: S0140 6736(20)30628-0. doi: 10.1016/S0140-6736(20)30628-0.