COVID-19 HASTASINDA KARDİYAK ANESTEZİ

9. BÖLÜM

Sinem ÇETİNKAYA ÖZPAR[1]

GİRİŞ

COVID-19 hastalığı; 2019 yılının sonunda ortaya çıkmış, şiddetli akut solunum sendromu ile seyir gösteren ve ölümcül olabilen bir salgın hastalıktır. Kaynağı, ilk kez 2019 yılı son gününde Çin Halk Cumhuriyeti Vuhan kenti Hubei semtinde tespit edilmiş olan yeni nesil bir koronavirüstür (1). Bu tarihten itibaren hastalık giderek dünya çapına yayılmış ve Dünya Sağlık Örgütü (DSÖ) tarafından tespit tarihinden 3 ay 10 gün sonra pandemi ilan edilmiştir. 4 Temmuz 2020 itibarı ile 10.902.637 COVID-19 vakası ve bu vakaların 522.446'sında ölüm gerçekleştiği belirtilmektedir (2).

Hastalık; alt solunum yollarını etkileyen pnömoni ve akut kardiyak hasar ile önemli ölçüde seyredebilmektedir (3). Ayrıca bu hastalarda sıklıkla koagülopati görülmektedir (4). Bahsi geçen bu önemli tablolar; çoklu organ yetmezliğine zemin hazırlamaktadır. Akut respiratuar distres sendromu (ARDS), kardiyojenik şok ve çoklu organ yetmezliği; erken dönemde ortaya çıkan mortalite ve morbiditenin en sık nedenini oluşturmaktadır (3).

Kardiyak cerrahi; birçok kardiyovasküler hastalık için elektif, acele ve acil koşullarda uygulanmaktadır. COVID-19 pandemisi esnasında bu girişimlerin, COVID-19 ile takipli olgulara uygulanması gerekebilir. Ayrıca pandemi sürecinde acil cerrahi girişim gerektiren kardiyak patolojileri olan hastalarda rastlantısal bir şekilde COVID-19 hastalığı saptanabilmektedir (5). Bu nedenle COVID-19 pandemisinde kardiyovasküler cerrahi planlanan olguların preoperatif, intraoperatif ve postoperatif anestezi yönetimi; hastanın mortalite ile morbiditesi ve prosedürde görev yapan cerrah, anestezist, hemşire, anestezi teknisyeni ve diğer sağlık personellerinin güvenliği yönünden özel bir önem gerektirmektedir.

[1] Uzm. Dr. Sinem ÇETİNKAYA ÖZPAR – Bursa Şehir Hastanesi – sinemckaya@hotmail.com
Orcid No: 0000-0002-3173-5080

KAYNAKÇA

1. Huang C, Wang Y, Li X, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. Lancet. 2020;395:497-506.
2. World Health Organization. Novel coronavirus (COVID-19) situation dashboard. https://covid19.who.int/.
3. Rothan H.A., Byrareddy S.N. The epidemiology and pathogenesis of coronavirus disease (COVID-19) outbreak. J. Autoimmun. 2020;102433.
4. Thachil J, Tang N, Gando S, et al. ISTH interim guidance on recognition and management of coagulopathy in COVID-19. J Thromb Haemost. 2020;18(5):1023-1026.
5. Fisher B, Seese L, Sultan I, Kilic A. The importance of repeat testing in detecting coronavirus disease 2019 (COVID-19) in a coronary artery bypass grafting patient. J Card Surg. 2020;35(6):1342-1344.
6. Wu Z, McGoogan JM. Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases From the Chinese Center for Disease Control and Prevention. JAMA. 2020;10.1001/jama.2020.2648.
7. Mehra MR, Desai SS, Kuy S, Henry TD, Patel AN. Cardiovascular Disease, Drug Therapy, and Mortality in Covid-19 [retracted in: N Engl J Med. 2020 Jun 4;:]. N Engl J Med. 2020;382(25):e102.
8. 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(2):271-280.e8.
9. Hamming I, Timens W, Bulthuis ML, Lely AT, Navis G, van Goor H. Tissue distribution of ACE2 protein, the functional receptor for SARS coronavirus. A first step in understanding SARS pathogenesis. J Pathol. 2004;203(2):631-637.
10. Donoghue M, Hsieh F, Baronas E, et al. A novel angiotensin-converting enzyme-related carboxypeptidase (ACE2) converts angiotensin I to angiotensin 1-9. Circ Res. 2000;87(5):E1-E9. .
11. South AM, Diz DI, Chappell MC. COVID-19, ACE2, and the cardiovascular consequences. Am J Physiol Heart Circ Physiol. 2020;318(5):H1084-H1090.
12. Zhang Y, Xiao M, Zhang S, et al. Coagulopathy and Antiphospholipid Antibodies in Patients with Covid-19. N Engl J Med. 2020;382(17):e38.
13. Varga Z, Flammer AJ, Steiger P, et al. Endothelial cell infection and endotheliitis in COVID-19. Lancet. 2020;395(10234):1417-1418. .
14. Zheng YY, Ma YT, Zhang JY, Xie X. COVID-19 and the cardiovascular system. Nat Rev Cardiol. 2020;17(5):259-260. .
15. Long B, Brady WJ, Koyfman A, Gottlieb M. Cardiovascular complications in COVID-19. Am J Emerg Med. 2020;38(7):1504-1507. .
16. Kalil AC. Treating COVID-19-Off-Label Drug Use, Compassionate Use, and Randomized Clinical Trials During Pandemics. JAMA. 2020;10.1001/jama.2020.4742.
17. Garg M, Wray CM. Hospital Medicine Management in the Time of COVID-19: Preparing for a Sprint and a Marathon. J Hosp Med. 2020;15(5):305-307.
18. Carenzo L, Costantini E, Greco M, et al. Hospital surge capacity in a tertiary emergency referral centre during the COVID-19 outbreak in Italy. Anaesthesia. 2020;75(7):928-934.
19. Mavioğlu Levent H, Ünal Utku E, Aşkın G, Küçüker Alp Ş, Özatik Ali M. Perioperative planning for cardiovascular operations in the COVID-19 pandemic. Turk Gogus Kalp Dama 2020;28:236-243.

20. He Y, Wei J, Bian J, et al. Chinese Society of Anesthesiology Expert Consensus on Anesthetic Management of Cardiac Surgical Patients With Suspected or Confirmed Coronavirus Disease 2019. J Cardiothorac Vasc Anesth. 2020;34(6):1397-1401.
21. Sungur Z. Anesthetic management of patients with COVID-19. Curr Thorac Surg 2020; 5(1): E1-E4.
22. Patel V, Jimenez E, Cornwell L, et al. Cardiac Surgery During the Coronavirus Disease 2019 Pandemic: Perioperative Considerations and Triage Recommendations. J Am Heart Assoc. 2020;9(13):e017042.
23. Pandemics and patient blood management. American Society of Anesthesiologists. https://www.asahq.org/in-the-spotlight/coronavirus-covid-19-information/pandemics-and-patient-blood-management.
24. Silvestri S, Ladde JG, Brown JF, et al. Endotracheal tube placement confirmation: 100% sensitivity and specificity with sustained four-phase capnographic waveforms in a cadaveric experimental model. Resuscitation. 2017;115:192-8.
25. Bartlett RH, Ogino MT, Brodie D, et al. Initial ELSO Guidance Document: ECMO for COVID-19 Patients with Severe Cardiopulmonary Failure. ASAIO J. 2020;66(5):472-474.
26. Cormican DS, Winter D, McHugh S, et al. Severe Acute Respiratory Syndrome Coronavirus-2 Cardiovascular Complications: Implications for Cardiothoracic Anesthesiology. J Cardiothorac Vasc Anesth. 2020;S1053-0770(20)30497-3.
27. Matthay MA, Aldrich JM, Gotts JE. Treatment for severe acute respiratory distress syndrome from COVID-19. Lancet Respir Med. 2020;8(5):433-434.