

24.

Bölüm

COVID-19 HASTALIĞINDA KOAGÜLOPATİ VE İMMUN PLAZMA

Sude Hatun AKTİMUR¹

1. COVID-19'da koagülopati nasıl olmaktadır?
2. COVID-19 koagülopatisinin klinik ve laboratuvar özellikleri nelerdir?
3. COVID-19 ile ilişkili koagülopatinin yönetimi nasıl olmalıdır?
4. COVID-19 tedavisinde immun plazma nasıl etki etmektedir.
5. İmmun plazma tedavisi mekanizması nasıl açıklanmaktadır?
6. İmmun plazma tedavisinin riskleri var mıdır?
7. İmmun plazma tedavisinde başarayı öngören faktörler nelerdir?

GİRİŞ

COVID-19 için hiçbir aşısı, hiperimmün immünoglobulin veya spesifik antiviral ajan şu anda mevcut değildir ve steroidler, klorokin, antiviral ilaçlar (remdesivir, loparinir / ritonavir), antiinflamatuar ajanlar (tocilizumab, sarilumab) dahil olmak üzere çeşitli terapötik modaliteler ve hiperimmün konvalesan plazmasının kullanımı, şiddetli COVID-19 hastalarında bir dizi randomize olmayan veya randomize çalışmada araştırılmaktadır (1-3). Antikoagülasyon profilaksi ve tedavisi de COVID-19 hastalarının yönetiminde anahtar rol oynamaktadır. İlk COVID-19 vakaları tanımlanır tanımlanmaz, SARS-CoV-2 ile ilişkili semptomların solunum yolu ile sınırlı olmadığı, ancak virüsün çoklu sistemik inflamatuar yanıtları ve koagülopatiyi tetikleyebildiği ortaya çıkmıştır (4-7).

¹ Dr. Öğr. Üyesi, Sude Hatun AKTİMUR, Sude Hatun AKTİMUR, Samsun Üniversitesi Samsun Eğitim ve Araştırma Hastanesi İç Hastalıkları ve Hematoloji sudehatun@yahoo.com

ar parametreler (IL-6, C-reaktif protein, ferritin ve prokalsitonin) değerleri ile risk sınıflaması yapılması gereklidir. COVID-19'un trombotik yükü göz önüne alındığında, DMAH ile tromboprofilaksi, bu antikoagulan ajanın antiinflamatuvar özelliklerini de dikkate alarak şu anda terapötik bir öncelik olarak kabul edilmektedir.

İncelenen çalışmalar tarafından bildirilen bulgular ışığında, İP, COVID-19 hastalığı için potansiyel bir terapi gibi görülmektedir. Yeterli olmayan farmakolojik tedavi koşullarında, başarılı bir iyileştirici çare için acil ihtiyaç olarak İP düşünülebilmektedir. Ek olarak, tedavinin en erken fırسatta ele alınması gerekmektedir.

KAYNAKLAR

1. Zhang L, Liu Y. Potential interventions for novel coronavirus in China: A systematic review. *J Med Virol.* 2020;92(5):479-90.
2. Rome BN, Avorn J. Drug Evaluation during the COVID-19 Pandemic. *The New England journal of medicine.* 2020;382(24):2282-4.
3. Wong HK, Lee CK. Pivotal role of convalescent plasma in managing emerging infectious diseases. *Vox Sang.* 2020;115(7):545-7.
4. Tal S, Spectre G, Kornowski R, Perl L. Venous Thromboembolism Complicated with COVID-19: What Do We Know So Far? *Acta Haematol.* 2020;143(5):417-24.
5. Giannis D, Ziogas IA, Gianni P. Coagulation disorders in coronavirus infected patients: COVID-19, SARS-CoV-1, MERS-CoV and lessons from the past. *J Clin Virol.* 2020;127:104362.
6. Levi M, Thachil J, Iba T, Levy JH. Coagulation abnormalities and thrombosis in patients with COVID-19. *Lancet Haematol.* 2020;7(6):e438-e40.
7. Thachil J, Tang N, Gando S, Falanga A, Cattaneo M, Levi M, et al. ISTH interim guidance on recognition and management of coagulopathy in COVID-19. *J Thromb Haemost.* 2020;18(5):1023-6.
8. Liu Z, Xiao X, Wei X, Li J, Yang J, Tan H, et al. Composition and divergence of coronavirus spike proteins and host ACE2 receptors predict potential intermediate hosts of SARS-CoV-2. *J Med Virol.* 2020;92(6):595-601.
9. Connors JM, Levy JH. COVID-19 and its implications for thrombosis and anticoagulation. *Blood.* 2020;135(23):2033-40.
10. Leisman DE, Deutschman CS, Legrand M. Facing COVID-19 in the ICU: vascular dysfunction, thrombosis, and dysregulated inflammation. *Intensive Care Med.* 2020;46(6):1105-8.
11. Becker RC. COVID-19 update: COVID-19-associated coagulopathy. *J Thromb Thrombolysis.* 2020;50(1):54-67.
12. Henry BM, de Oliveira MHS, Benoit S, Plebani M, Lippi G. Hematologic, biochemical and immune biomarker abnormalities associated with severe illness and mortality in coronavirus disease 2019 (COVID-19): a meta-analysis. *Clin Chem Lab Med.* 2020;58(7):1021-8.
13. Guan WJ, Ni ZY, Hu Y, Liang WH, Ou CQ, He JX, et al. Clinical Characteristics of Coronavirus Disease 2019 in China. *The New England journal of medicine.* 2020;382(18):1708-20.
14. Zhou F, Yu T, Du R, Fan G, Liu Y, Liu Z, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet.* 2020;395(10229):1054-62.
15. Petrilli CM, Jones SA, Yang J, Rajagopalan H, O'Donnell L, Chernyak Y, et al. Factors associated with hospital admission and critical illness among 5279 people with coronavirus disease 2019 in New York City: prospective cohort study. *Bmj.* 2020;369:m1966.

16. 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.
17. Lippi G, Plebani M, Henry BM. Thrombocytopenia is associated with severe coronavirus disease 2019 (COVID-19) infections: A meta-analysis. *Clin Chim Acta.* 2020;506:145-8.
18. Wada H, Thachil J, Di Nisio M, Kurosawa S, Gando S, Toh CH. Harmonized guidance for disseminated intravascular coagulation from the International Society on Thrombosis and Haemostasis and the current status of anticoagulant therapy in Japan: a rebuttal. *J Thromb Haemost.* 2013;11(11):2078-9.
19. Lodigiani C, Iapichino G, Carenzo L, Cecconi M, Ferrazzi P, Sebastian T, et al. Venous and arterial thromboembolic complications in COVID-19 patients admitted to an academic hospital in Milan, Italy. *Thromb Res.* 2020;191:9-14.
20. Helms J, Tacquard C, Severac F, Leonard-Lorant I, Ohana M, Delabranche X, et al. High risk of thrombosis in patients with severe SARS-CoV-2 infection: a multicenter prospective cohort study. *Intensive Care Med.* 2020;46(6):1089-98.
21. Tian S, Hu W, Niu L, Liu H, Xu H, Xiao SY. Pulmonary Pathology of Early-Phase 2019 Novel Coronavirus (COVID-19) Pneumonia in Two Patients With Lung Cancer. *J Thorac Oncol.* 2020;15(5):700-4.
22. Cui S, Chen S, Li X, Liu S, Wang F. Prevalence of venous thromboembolism in patients with severe novel coronavirus pneumonia. *J Thromb Haemost.* 2020;18(6):1421-4.
23. Dolhnikoff M, Duarte-Neto AN, de Almeida Monteiro RA, da Silva LFF, de Oliveira EP, Saldiva PHN, et al. Pathological evidence of pulmonary thrombotic phenomena in severe COVID-19. *J Thromb Haemost.* 2020;18(6):1517-9.
24. Tang N, Bai H, Chen X, Gong J, Li D, Sun Z. Anticoagulant treatment is associated with decreased mortality in severe coronavirus disease 2019 patients with coagulopathy. *J Thromb Haemost.* 2020;18(5):1094-9.
25. Yin S, Huang M, Li D, Tang N. Difference of coagulation features between severe pneumonia induced by SARS-CoV2 and non-SARS-CoV2. *J Thromb Thrombolysis.* 2020;1-4.
26. Duan K, Liu B, Li C, Zhang H, Yu T, Qu J, et al. Effectiveness of convalescent plasma therapy in severe COVID-19 patients. *Proc Natl Acad Sci U S A.* 2020;117(17):9490-6.
27. Tiberghien P, de Lamballerie X, Morel P, Gallian P, Lacombe K, Yazdanpanah Y. Collecting and evaluating convalescent plasma for COVID-19 treatment: why and how? *Vox Sang.* 2020;115(6):488-94.
28. Zhou M, Zhang X, Qu J. Coronavirus disease 2019 (COVID-19): a clinical update. *Front Med.* 2020;14(2):126-35.
29. Bloch EM, Shoham S, Casadevall A, Sachais BS, Shaz B, Winters JL, et al. Deployment of convalescent plasma for the prevention and treatment of COVID-19. *J Clin Invest.* 2020;130(6):2757-65.
30. Venkat Kumar G, Jeyanthi V, Ramakrishnan S. A short review on antibody therapy for COVID-19. *New Microbes New Infect.* 2020;35:100682.
31. Alzoughool F, Alanagreh L. Coronavirus drugs: Using plasma from recovered patients as a treatment for COVID-19. *Int J Risk Saf Med.* 2020;31(2):47-51.
32. Teixeira da Silva JA. Convalescent plasma: A possible treatment of COVID-19 in India. *Med J Armed Forces India.* 2020;76(2):236-7.
33. COVID-19 (SARS-CoV-2 Enfeksiyonu) Erişkin Hasta Tedavisi. Erişim 18 Ekim 2020. [Available from: <https://COVID19.saglik.gov.tr/Eklenti/39061/0/COVID-9rehberieriskinhastate-davisipdf.pdf>]
34. Cheng Y, Wong R, Soo YO, Wong WS, Lee CK, Ng MH, et al. Use of convalescent plasma therapy in SARS patients in Hong Kong. *Eur J Clin Microbiol Infect Dis.* 2005;24(1):44-6.
35. Mair-Jenkins J, Saavedra-Campos M, Baillie JK, Cleary P, Khaw FM, Lim WS, et al. The effectiveness of convalescent plasma and hyperimmune immunoglobulin for the treatment of severe acute respiratory infections of viral etiology: a systematic review and exploratory meta-analysis. *J Infect Dis.* 2015;211(1):80-90.

36. Ahn JY, Sohn Y, Lee SH, Cho Y, Hyun JH, Baek YJ, et al. Use of Convalescent Plasma Therapy in Two COVID-19 Patients with Acute Respiratory Distress Syndrome in Korea. *J Korean Med Sci.* 2020;35(14):e149.
37. Ye M, Fu D, Ren Y, Wang F, Wang D, Zhang F, et al. Treatment with convalescent plasma for COVID-19 patients in Wuhan, China. *J Med Virol.* 2020.
38. Joyner M, Wright RS, Fairweather D, Senefeld J, Bruno K, Klassen S, et al. Early Safety Indicators of COVID-19 Convalescent Plasma in 5,000 Patients. *medRxiv.* 2020.
39. Joyner MJ, Bruno KA, Klassen SA, Kunze KL, Johnson PW, Lesser ER, et al. Safety Update: COVID-19 Convalescent Plasma in 20,000 Hospitalized Patients. *Mayo Clinic proceedings.* 2020;95(9):1888-97.
40. Adil MS, Khan MA, Khan MN, Sultan I, Khan MA, Ali SA, et al. EMPADE Study: Evaluation of Medical Prescriptions and Adverse Drug Events in COPD Patients Admitted to Intensive Care Unit. *J Clin Diagn Res.* 2015;9(11):Fc05-8.
41. Zhao Q, He Y. Challenges of Convalescent Plasma Therapy on COVID-19. *J Clin Virol.* 2020;127:104358.
42. Langhi DMJ, Santis GC, Bordin JO. COVID-19 convalescent plasma transfusion. *Hematol Transfus Cell Ther.* 2020;42(2):113-5.