- Huisman A, Beun R, Sikma M, Westerink J, Kusadasi N. Involvement of ADAMTS13 and von Willebrand factor in thromboembolic events in patients infected with SARS-CoV-2. Int J Lab Hematol. 2020. http://doi.org/10.1111/ijlh.13244.
- Huber-Lang M, Younkin EM, Sarma JV, et al. Generation of C5a by phagocytic cells. Am J Pathol. 2002;161:1849–1859.



© 2020 Sociedad Española de Cardiología. Published by Elsevier España, S.L.U. All rights reserved.



Arterial thrombotic complications in hospitalized patients with COVID-19. Response to related letters



Complicaciones arteriales trombóticas en pacientes hospitalizados con COVID-19. Respuesta a cartas relacionadas

To the Editor,

We appreciate the interest shown by Kow et al. in our work. We fully agree with the comment that the lower cardiovascular risk profile in the cohort of patients with coronavirus disease 2019 (COVID-19), as well as the simultaneous thrombosis in different territories, supports the hypothesis of a systemic prothrombotic state in close relation to the inflammatory response associated with the severe acute respiratory syndrome coronavirus 2 (SARS-COV-2)^{1,2}.

Regarding the potential use of prophylactic antiplatelet therapy for its antithrombotic effect and perhaps even, as noted by the authors, its antiviral effect in patients with COVID-19, we recognize that this is an attractive proposal, but currently there is no clear clinical evidence of its usefulness in SARS-CoV-2 infection. There is no doubt about the importance of antiplatelet therapy in patients with arterial thrombotic complications, but its use in patients with high cardiovascular risk without established disease provides minimal benefit and an increased risk of bleeding complications.³ One might think that with COVID-19 this would be different due to the endothelial dysfunction and inflammatory response it causes, but we must avoid empiricism and not support its de novo use in patients with COVID-19 without a specific cardiovascular reason, except in research studies specifically designed to test its efficacy.

We also thank and congratulate Valga et al.⁴ for their recent publication on the role played by endothelial injury, complement, and coagulation in the pathogenesis of coronavirus disease. In our scientific letter,¹ we focused exclusively on the 1.8% (n = 38) of COVID-19 positive patients with arterial thrombotic complications treated at our hospital in March 2020. Although they had a higher

score according to the International Society on Thrombosis and Haemostasis (ISTH) diagnostic criteria for disseminated intravascular coagulation (DIC), only 3 strictly met the diagnostic criteria. As other authors have noted,⁵ it is likely that patients with COVID-19 have a severe hypercoagulability, more so than a consumption coagulopathy, as is the case of classical DIC. Indeed, the pattern is different, as in patients with COVID-19, fibrinogen is characteristically elevated and thrombocytopenia is uncommon, and if it occurs, it is usually mild or moderate. We agree with the hypothesis of Valga et al. of multiple interactions between the immune system, coagulation (immunothrombosis), and associated endothelial dysfunction as a response to SARS-CoV-2 to explain the prothrombotic state of coronavirus disease.

Juan R. Rey,* José Luis Merino, Ángel M. Iniesta, and Juan Caro-Codón, CARD-**P**OVID investigators Servicio de Cardiología, Hospital Universitario La Paz, Madrid, Spain

* Corresponding author:

E-mail address: juanr.rey@salud.madrid.org (J.R. Rey).

Available online 12 October 2020

REFERENCES

- 1. Rey JR, Caro-Codón J, Poveda Pineda D, et al. Arterial thrombotic complications in hospitalized patients with COVID-19. *Rev Esp Cardiol.* 2020;73:769–771.
- Rey JR, Jiménez Valero S, Poveda Pinedo D, et al. COVID-19 and simultaneous thrombosis of two coronary arteries. Rev Esp Cardiol. 2020;73:676–677.
- 3. ASCEND Study Collaborative Group, Bowman L, Mafham M, et al. Effects of aspirin for primary prevention in persons with diabetes mellitus. *N Engl J Med.* 2018;379:1529-1539.
- **4.** Valga F, Vega-Díaz N, Macia M, et al. Targeting complement in severe coronavirus disease 2019 to address microthrombosis. *Clin Kidney J.* 2020;13:477–479.
- Fogarty H, Townsend L, Ni Cheallaigh C, et al. More on COVID-19 coagulopathy in Caucasian patients. Br J Haematol. 2020;189:1060–1061.



https://doi.org/10.1016/j.rec.2020.09.020

1885-5857/

© 2020 Sociedad Española de Cardiología. Published by Elsevier España, S.L.U. All rights reserved.

SEE RELATED CONTENT:

https://doi.org/10.1016/j.rec.2020.08.009 https://doi.org/10.1016/j.rec.2020.08.021

Telematic cardiology consultation in the elderly. The 5 M framework can help



Consulta telemática de cardiología para ancianos. La regla de las 5 M puede ser una ayuda

To the Editor,

We read with great interest the excellent consensus document of the Spanish Society of Cardiology on teleconsulta-

SEE RELATED CONTENT: https://doi.org/10.1016/j.rec.2020.06.032 https://doi.org/10.1016/j.rec.2020.09.022 tions for clinical cardiologists in the era of COVID-19 by Barrios et al. Telematic cardiology consultations are now a reality in Spain² and a document to help organize them will always be welcome. However, as active members of the Geriatric Cardiology Section, we were disappointed to see that there was no specific reference to elderly patients, who make up a very high percentage of the patients we see in our everyday practice. Elderly patients, who are particularly vulnerable to coronavirus infection, need more help to understand that telemedicine can be an effective way to communicate with their cardiologists and to be able to use it effectively. With this in mind, the 5 M framework^{4,5} (figure 1) can be a useful guide for teleconsultations: