Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Anaesth Crit Care Pain Med 40 (2021) 100783

Contents lists available at ScienceDirect

Anaesthesia Critical Care & Pain Medicine

journal homepage: www.elsevier.com

Letter to the Editor

Corticosteroid therapy in COVID-19 patients: Don't forget venous thromboembolism

Dear Editor,

We read with great interest the article by Rello et al. [1], which pointed out some evidence supporting the corticosteroid therapy in COVID-19 patients. As the authors cited in their article, a significant contribution on the usage of these drugs, and especially dexamethasone, has been obtained by the preliminary results of the RECOVERY trial [2]. We were very intrigued by the point number seven of their article regarding the effect of corticosteroids on the formation of microthrombi and reduction of coagulopathy.

Unfortunately, in the RECOVERY trial, data were scarce in some domains [2]. Therefore, the benefit–risk profile of corticosteroids across the full spectrum of patients with critical COVID-19 and a range of some comorbidities remains uncertain. In fact, corticosteroids have been generally associated, per se, with a greater risk of venous thromboembolism (VTE) [3,4]. Furthermore, VTE has been described as a direct consequence of the viral infection in about one-third of patients, significantly reducing the short-term outcome. The corticosteroid regimen evaluated in the RECOVERY trial was based on low dose of dexamethasone (6 mg once daily, taken orally or by injection for 10 days). In this regard, the risk of VTE in patients treated with dexamethasone has been poorly evaluated in previous literature, especially the regimen adopted in the RECOVERY trial. Across the poor data on this topic available in previous medical literature, a randomised study, including 24 healthy men aged between 19 and 39 years-old who received either dexamethasone 3 mg twice daily *versus* placebo for 5 days. Dexamethasone tended to modestly increase clotting factors levels and fibrinogen without significantly affecting PAI-1, D-dimer or sCD40-ligand. Moreover, factor VII, VIII, IX and fibrinogen increased by a mean of 13%, 27%, 6% and 13%, respectively *versus* placebo [5].

We cannot deny that the RECOVERY trial has limitation. For example, some group of patients in whom corticosteroids might have harmful effect, also in terms of VTE, were not included as those with uncontrolled diabetes, underlying malignancy or immunosuppression [2]. Moreover, it should be noted that no data regarding the occurrence of thromboembolic events has been reported in the preliminary results of the RECOVERY. For these reasons, a further and specific analysis on the risk of VTE in COVID-19 patients treated with corticosteroids should urgently performed to guarantee that, beside a proved down regulation of inflammatory pathways, the potential risk of VTE should be adequately assessed.

Funding

None.

Ethical approval

Not applicable.

Conflicts of interest

The authors declared that they have no conflict of interest.

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Available online 19 November 2020

https://doi.org/10.1016/j.accpm.2020.11.003