The pulmonary circuit dynamics in COVID-19!

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To the Editor:

I read with interest the article by Hirata and Yamakage, focusing the cardiovascular considerations of COVID-19 [1], motivating me to elucidate the underemphasized pulmonary vascular consequences.

While cytokine storm and microcirculatory dysfunction contribute to pulmonary hypertension (PH) in COVID (accentuated by hypoxemia, mechanical ventilation), impact on outcomes is concerning. Pagnesi et al. evaluated 200 COVID-19 patients, to reveal a 12% PH incidence, associated with 41.7% adverse outcome (mortality/ICU admission) compared to 8.5% in those without PH [2]. COVID in pre-existing PH also accounted for 12% mortality in a US-based survey [3]. Moreover, PH-setting is prone to right ventricular failure with inflammatory myocardial depression worsening the matter [1, 2].

COVID-19 can be compounded by PH, wherein perioperative physician needs to modulate the anesthetic–analgesic–ventilation strategies minimizing any deterioration in the pulmonary dynamics, to ensure favorable outcome.

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Compliance with ethical standards

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