

## LETTER

## Coagulation concerns in patients with COVID-19 proposed for regional anesthesia

To the Editor

Recently, we published practice recommendations about regional anesthesia in patients with suspected or confirmed COVID-19.<sup>1</sup> Many anesthesiologists have embraced regional anesthetic techniques during the COVID-19 crisis due to presumed physiological benefits as well as possible reductions in transmission risks. There may be some unique characteristics of the coagulation state of patients with COVID-19 that we thought merited a communication.

Mild thrombocytopenia is common in the affected population, but platelet count is rarely less than 100,000/mL.<sup>2</sup> Around 20%–55% of hospitalized patients for COVID-19 have laboratory evidence of coagulopathy, namely elevated D-dimer concentrations ( $\geq 2$  times above normal range), mildly prolonged prothrombin time (1–3 s prolongation above normal range) and, in late disease, decreased fibrinogen levels ( $< 2$  g/L (5.88  $\mu\text{mol/L}$ )).<sup>2</sup> Indeed, coagulopathy correlates with severity of disease.<sup>2</sup> Therefore, preoperative platelet count and coagulation assays should be considered for all patients scheduled for neuraxial or profound blocks, with postoperative re-testing if a perineural catheter is used in the previous locations.<sup>1</sup>

A platelet count above 75,000/mL is an acceptable level for performing neuraxial techniques in obstetric patients.<sup>3</sup> In select circumstances of obstetric anesthesia, platelet count between 50 and 80,000/

mL may still allow neuraxial block.<sup>3</sup> The platelet count threshold for lumbar puncture is substantially below and the risk of spinal hematoma is very low in oncology patients.<sup>3</sup> Since a thinner needle is used and no catheter is placed at the epidural space, the risk of spinal hematoma after spinal anesthesia seems to be lower than after epidural catheterization.<sup>3</sup>

When neuraxial procedure is considered desirable, thromboelastography may be useful in patients with worrisome thrombocytopenia.<sup>3</sup> In these cases, the decision to proceed with spinal anesthesia is a balance between benefits and risks for the patient.<sup>3</sup>

COVID-19 coagulopathy seems to be prothrombotic.<sup>2</sup> In the absence of a contraindication, inpatients infected with COVID-19 should receive thromboembolic prophylaxis, with some evidence supporting low molecular weight heparin for pregnant women with confirmed COVID-19 even at home.<sup>2,4</sup> Standard regional anesthesia precautions are in order for starting and stopping anti-coagulation.<sup>5</sup>

Angela Barbosa Mendes,<sup>1</sup> Constança Penedos,<sup>1</sup> Luísa Vaz Rodrigues,<sup>1</sup> Joana Santos Varandas,<sup>1</sup> Neusa Lages,<sup>1</sup> Humberto Machado<sup>1,2</sup>

<sup>1</sup>Serviço de Anestesiologia, Centro Hospitalar Universitário do Porto EPE, Porto, Portugal

<sup>2</sup>Instituto de Ciências Biomédicas Abel Salazar, Universidade do Porto, Porto, Portugal

**Correspondence to** Angela Barbosa Mendes, Serviço de Anestesiologia, Centro Hospitalar Universitário do Porto EPE, Porto 4099-001, Portugal; [angelaisabelmendes@hotmail.com](mailto:angelaisabelmendes@hotmail.com)

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