

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-19.¹ 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.² Around 20%–55% of hospitalized patients for COVID-19 have laboratory evidence of coagulopathy, namely elevated D-dimer concentrations (≥ 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 $\mu\text{mol/L}$)).² Indeed, coagulopathy correlates with severity of disease.² 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.¹

A platelet count above 75,000/mL is an acceptable level for performing neuraxial techniques in obstetric patients.³ In select circumstances of obstetric anesthesia, platelet count between 50 and 80,000/mL may still allow neuraxial block.³ The platelet count threshold for lumbar puncture is substantially below and the risk of spinal hematoma is very low in oncology patients.³ 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.³

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

COVID-19 coagulopathy seems to be prothrombotic.² 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.^{2, 4} Standard regional anesthesia precautions are in order for starting and stopping anti-coagulation.⁵

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