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Commentary: Controlling high blood pressure with intravenous sedation in mechanically ventilated neurosurgical patients in the intensive care unit. Is it a correct practice?

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ABSTRACT

This commentary discusses the effect of misuse of intravenous sedation regimens in lowering the systemic blood pressure in mechanically ventilated neurosurgical patients in the intensive care unit.

Intravenous sedation regimens are widely used in a neuro-intensive care unit (neuro-ICU) for specific neurologic purposes.¹⁻⁴ Among these purposes are intracranial pressure control, seizures management, targeted temperature management, reduction of pain, agitation control, and patient-ventilatory asynchrony.¹⁻⁴ The effect of sedatives on blood pressure is that they lower systemic blood pressure.⁵ Thus, some would intensify sedation intending for systemic blood pressure control.⁵ The problem is, when the sedatives are stopped, the risk of systemic rebound hypertension will exacerbate intracranial pressure in patients with low brain compliance.⁶ Improper management of systemic blood pressure (BP) can ultimately lead to encephalopathy, cardiac and renal complications.^{7,8} Moreover, the misuse of sedatives in neurocritical patients has deleterious effects in terms of eliminating neuro-assessment and potential cardiovascular depression; thus, it increases hospital stay, morbidity, mortality and delays the clinical decision process.¹⁻⁴

Keywords
hypertension,
neuroICU,
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Prompt BP control in mechanically ventilated patients with neurological emergencies in neuro-ICU is necessary.⁷⁻¹⁰ Nicardipine, labetalol, clevidipine, and urapidil are examples of fast-acting, soluble intravenous medicines that are feasible and recommended as first-line antihypertensive medications.⁸ Invasive BP monitoring is required, especially in the setting of intracranial hypertension.^{8,9} The 2013 American Stroke Association (ASA) guidelines state no exact BP target for which intravenous antihypertensive agents should be started.¹⁰ When the systolic BP surpasses 220 or the diastolic BP surpasses 120 during the first 24 hours after an acute ischemic stroke, the ASA recommends reducing the blood pressure.¹⁰ When fibrinolytic therapy is attempted, the recommended BP target is a systolic BP less than 180 or diastolic BP less than 110.¹⁰

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