The purpose of the present study was to investigate the occurrence rate of diabetes insipidus after discontinuation of vasopressin infusion among patients treated with vasopressin infusion for shock” Ferenchick et al (2019).

Abstract:

OBJECTIVES: Vasopressin has achieved common usage for the treatment of catecholamine-requiring and catecholamine-resistant shock. Diabetes insipidus is a syndrome characterized by excretion of abnormally large volumes of dilute urine. To date, very few reports of diabetes insipidus after discontinuation of vasopressin infusion have been published; the majority of previous reports describe neurosurgical patients. The purpose of the present study was to investigate the occurrence rate of diabetes insipidus after discontinuation of vasopressin infusion among patients treated with vasopressin infusion for shock.

DESIGN: Retrospective analysis of electronic health records of patients receiving continuous vasopressin infusion for the treatment of shock within a 5-year period (2012-2016).

SETTING: Medical, surgical, and cardiothoracic ICUs within one academic medical center.

PATIENTS: One-thousand eight-hundred ninety-six patients received vasopressin infusion for the treatment of shock.

INTERVENTIONS: None.

MEASUREMENTS AND MAIN RESULTS: The occurrence rate of diabetes insipidus after discontinuation of vasopressin infusion was 1.53% among all patients. Sixteen of 29 patients with diabetes insipidus after discontinuation of vasopressin infusion had undergone cardiothoracic intervention, such as coronary artery bypass graft and valve replacement surgery, extracorporeal membrane oxygenation, and placement of ventricular assist devices. No neurosurgical patients were identified in our cohort. In a control group of patients receiving norepinephrine but not vasopressin infusion for treatment of shock, criteria for diabetes insipidus were observed in two of 1,320 subjects (0.15%).
CONCLUSIONS: Despite a paucity of published reports, diabetes insipidus after discontinuation of vasopressin infusion appears not to be a rare phenomenon, and is likely to be encountered by intensivists who regularly employ vasopressin for the treatment of vasoplegic shock. Previous reports consisted predominantly of neurosurgical patients. Our findings demonstrate the occurrence of diabetes insipidus after discontinuation of vasopressin infusion among patients with septic shock as well as vasoplegic shock after cardiothoracic intervention. The mechanism of diabetes insipidus after discontinuation of vasopressin infusion remains to be elucidated but may involve transient downregulation of V2 receptors induced by exposure to supraphysiologic doses of vasopressin.

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