

# KSN 2016 Abstract Submission

## *Dialysis*

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### A case of methanol intoxication treated with continuous renal replacement therapy

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**Background:** Methanol is a common ingredient in many products including illicit liquors, windshield washer fluid and homemade alcoholic beverages. If it is ingested accidentally or deliberately, methanol can lead to severe toxicity

**Methods:** Methanol assays are not standard laboratory tests in Korea, there have been no case reports in which the methanol level was measured during treatment.

**Results:** A 46-year-old Korean woman was brought to the emergency department in an unconscious state approximately six hours after ingesting 150 ml of methanol in a suicide attempt. She was drowsy with a Glasgow Coma Scale of E2V4M5. On admission, her blood pressure was 90/60 Hg, heart rate was 77 beats/min, respiratory rate was 24/min, and temperature was 36 °C. The blood urea nitrogen and serum creatinine concentrations were 9 mg/dL (reference: 8-20 mg/dL) and 0.6 mmol/L (reference: 0.6-1.2 mg/dL), respectively. An initial arterial blood gas analysis revealed severe metabolic acidosis (pH = 7.180, pCO<sub>2</sub> = 33.0 mmHg, and HCO<sub>3</sub><sup>-</sup> = 13.0 mmol/L). The serum osmolal gap and anion gap were 249 mOsm/kgH<sub>2</sub>O and 21.7 mmol/L, respectively. The patient's hypotension persisted despite 2 L of normal saline hydration and a corresponding increase in her central venous pressure from 5 cmH<sub>2</sub>O to 8 cmH<sub>2</sub>O. The patient was admitted to the intensive care unit and started on continuous veno-venous hemodialysis (CVVHDF) with intravenous vasopressors. CVVHDF was initiated with 1 L/h of dialysate flow and 35 ml/kg/h of hemofiltration using solutions from Gambro. Following 12 hours of CVVHDF, the GCS increased to 12 (E3V4M5) and the patient's acid-base status normalized. We measured blood and urine levels of ethanol and methanol during CVVHDF. The initial blood and urine methanol levels were 6546.9 ppm (mg/L) and 5895.1 ppm (mg/L), respectively. Following 42 hours of CVVHDF, the serum methanol level decreased to 94 ppm (mg/L). The patient was discharged without any complications on the fifth day.

**Conclusion:** We report a case of methanol poisoning treated with CVVHDF in which the patient's clinical improvements were confirmed with decreasing serum methanol levels.

**Keywords:** anion gap, continuous veno-venous hemodialysis, methanol concentration, methanol poisoning, osmolal gap