

TREATMENT OF HYPONATRAMIA CAUSED BY KRAITBITE (BUNGARUS MULTICINCTUS) WITH 2% SODIUM CHLORIDE SOLUTION AT THE POISON CONTROL CENTER, BACH MAI HOSPITAL, HANOI, VIETNAM

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Abstract

Introduction: Hyponatremia is common, early occurred, rapid and severe condition of Kraitbite (*Bungarus multicinctus*) in the North of Vietnam. The recognition of hyponatremia is difficult clinically because of muscular paralysis. There has been not consensus on the treatment of this special condition. Correction of hyponatremia by NaCl 10% and 3% results in elevation of osmolality of about 7%. NaCl 2% solution is used in this study.

Objectives: To evaluate the effectiveness and complications of the treatment of hyponatremia by NaCl 2% in the patients bitten by *B. multicinctus*

Methods: this is a prospective, interventional and clinical trial. Subjects: patients with kraitbite (*B. multicinctus*) and serum Na < 135 mEq/L and admitted to the poison control center, Bach Mai hospital from 1/2008-9/2009. Study parameters: Blood and urine electrolytes were measured every 24 hours. The hyponatremia was divided into 3 degrees: grade 1 (mild): Na from 130 - 134 mmol/L; grade 2 (moderate): Na from 120 - 129 mmol/L; grade 3 (severe): Na < 120 mmol/L. Replacement regimen of sodium: Na 130 - 135 mmol/l: oral administration of table salt at the dose of 10 gram/day. Na < 130 mmol/L: infusion of NaCl 2% at the rate of 80 ml/h. Acute hyponatremia induced seizures: infuse 500 ml of NaCl 2% within 5 hours, then maintain rate of 80 ml/h. Serum sodium was tested every 6 hours: if Na < 130 mmol/l, continue IV transfusion of NaCl 2% at the rate of 80 ml/h; if serum Na > 130 mmol/L, discontinue NaCl 2%, do the replacement of sodium by the ingestion table salt. The data was analysed by SPSS 16.0, compare 2 qualitative and quantitative variables by test χ^2 , calculation r for relations using t test.

Results: 45 patients met the study criteria were included. The mean age: 39.53 ± 16.5 (14-68 years), Gender: female: 16 patients (35.6%), male: 29 patients (64.4%). Hospitalization: 13.7 ± 6.9 days (06 - 33 days). Moderate hyponatremia accounted for 55.5%, mild hyponatremia 28.9 %, severe hyponatremia 15.6%. The group with serum Na < 130 mmol/l required the infusion of NaCl 2% included 32 patients (71.1%). The treatment target of Na >130 mmol/L within 24 hours was met in 32 of patients (62.5%). In the group of moderate hyponatremia (25 patients), the target was met in 80% of the patients. In the group of 7 severe hyponatremia patients, 6 patients (85.7%) was corrected with blood Na >120 mmol/L within 24 hours, 100% with blood Na > 130 mmo/l within 72 hours. The complications with the treatment with NaCl 2%: No patients developed hypernatremia, hyperosmolality or signs of damage of central nervous system during and after the treatment course.

Conclusions: NaCl 2% was effective, safe for the treatment of *B. multicinctus* induced hyponatremia.