

ABSTRACT

Incidence Of Dysnatremia In Pediatric Acute Gastroenteritis In Tertiary Hospital

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Background

Acute gastroenteritis is one of the most common pediatric diseases leading to dysnatremia. The incidence of dysnatremia may help clinicians choose the proper type of initial fluid therapy.

Objectives

To determine the incidence of dysnatremia before intravenous fluid therapy in children with acute gastroenteritis. The secondary outcome included the incidence of dysnatremia after different types of intravenous fluid therapy.

Methods

This study retrospectively reviewed children 1 month to 18 years of age with acute gastroenteritis who was admitted to Siriraj hospital between 1 January 2016 to 31 October 2016.

Results

A total of 304 children were recruited with the median age of 2.2 years (1 month-17.5 years). The incidence of dysnatremia before intravenous fluid therapy were 17.1%. (hyponatremia 15.8%, and hypernatremia 1.3%). Of these 304 children, 247 children were isonatremic upon admission and data were analyzed. Two hundred and forty five children were received hypotonic fluid and the remaining 2 children received isotonic fluid. Following intravenous therapy, the incidence of hyponatremia in children who received hypotonic fluid (5%DN/3, 5%DN/4, 5%DN/5) were 5.6, 4.8 and 12.5% at 24, 24-48, 48-72 hours, respectively. None of children who received 5%DN/2 developed hyponatremia.

Conclusion

Initially, either isotonic fluid or 5%DN/2 is appropriate for children 1 month to 18 years of age with acute gastroenteritis. The prolonged use of hypotonic solution increases the risk of hyponatremia.

Keywords Pediatric acute gastroenteritis, Dysnatremia, Hyponatremia, Hypotonic fluid

Funding Faculty of Medicine Siriraj Hospital, Mahidol University.