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Review of causes of hyponatremia in the paediatric age group—10-year data in a busy university hospital

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Background: Hyponatremia is one of the most common electrolyte disturbances in hospitalized children, which can potentially cause significant morbidity and mortality. We reviewed the causes of severe hyponatremia ($\text{Na}^+ < 125$ mmol/L) in the neonatal unit and the paediatric unit (<16-year-olds) at Norfolk and Norwich University Hospital in the last ten years.

Aim: To list the common causes of hyponatremia and also we focus on the percentage of children with hyponatremia and an abnormal urinary tract which can cause transient pseudohypoaldosteronism.

Method: We performed the retrospective cohort analysis on the causes of severe hyponatremia from day 0 of age to under 16 years of age between 2006 and 2016. Data were obtained from case notes, badger and pathology software (ICE).

Result: There were total of 163 patients with hyponatremia (125 mmol/L). 53.3% of cases occurred in the neonate period. Out of the cases of neonatal hyponatremia, the most frequent cause of neonatal hyponatremia was prematurity which is 59.7%. In term neonates, sepsis was the most common cause followed by overhydration and renal failure after hypoxic event, which are 22.8% and 20% respectively. 8.5% of hyponatremic neonates who were term had urinary tract abnormality. In paediatric patients, endocrine pathologies such as adrenal insufficiency, diabetes mellitus, chronic SIADH and pituitary abnormalities shared the largest proportion of severe hyponatremia causes, which is 21%. The abnormalities in urinary tract and gastroenterological pathologies were the second commonest causes, which is 15.7% with 12 patients in each group.

Conclusion: Pathologies that cause hyponatremia in neonates and paediatric patients are different. Renal causes were common in the neonatal age group after sepsis compared to endocrine causes in the paediatric age group.

Biography

Myat Su Win is a Paediatric Specialist Registrar at East of England Deanery, United Kingdom. She has completed her MRCPCH, UK in the year of 2016 and graduated from Institute of Medicine (1), Myanmar. She did the review of hyponatremia under guidance Dr. Datta.

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