Category :**Electrolyte disorders**

A61 - ***The management of profound hyponatraemia***

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Introduction:

Barnsley Hospital uses the European Society of Intensive Care Medicine (ESICM) guidelines to manage profound hyponatraemia [1], but adverse outcomes have still been reported. A service evaluation was performed to determine current practice.

Methods:

A retrospective study was undertaken. 30 inpatients with a serum sodium concentration of <110mmol/L were identified between 01/01/2018 and 07/06/2020. Data from ICE^{TM} pathology reporting system and patient notes were collected then analysed for ESICM guideline compliance.

Results:

Patients (aged 28 - 85yrs) demonstrated a variety of signs and symptoms, with 27% asymptomatic at initial presentation. 83% of cases were identified in acute care specialities. Endocrinology and Critical Care were involved in 10% and 40% of cases respectively. 7 patients (23%) were admitted to Critical Care.
Mean initial serum sodium concentration was 106.5mmol/L. Frequency of blood sampling ranged between 1 and 11 tests in the first 48hrs. Correction in the first 24 hours ranged from 1 to 21 mmol/L. Correction at 24-48 hours ranged from 1 to 12mmol/L.
2.7% hypertonic saline was given in 27% of cases, all authorised by a senior clinician. With or without hypertonic saline, the rate of serum sodium correction exceeded ESICM limits in 47% cases. Overcorrection concerns were documented in one case. 11 out of 14 cases (79%) received no management for overcorrection. One patient developed osmotic demyelination syndrome. 6 of the 30 patients died during the index admission.

Conclusion:

High over-correction rates highlight the importance of close monitoring, prompt intervention and a low threshold for Critical Care involvement. Trust guidelines require urgent reform with tighter daily sodium correction rates and management algorithms publicised. Staff awareness and education is key. Re-evaluation is planned for 6 months after guideline modification.

References:

1. Spasovski G et al. European Journal of Endocrinology 170(3):G1-G47, 2014.