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Fluid management in Labour Ward—Aiming to improve practice

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Introduction

Fluid balance in labouring women is the topic of much discussion with increased awareness of the risk of hyponatraemia. Hyponatraemia in pregnancy (Na<130mmol/l) although rare, can result in serious illness for mother and baby.[1] The risk of hyponatraemia increases with the volume of fluid administered, with one study showing an occurrence of 26% in women receiving more than 2.5L.[2] Recent guidelines highlight the importance of fluid balance monitoring in labour.[1] We studied the fluid balance of women on our labour ward and the incidence of hyponatraemia.

Methods

We carried out a prospective audit of 100 women on our labour ward to study their fluid balance during labour in March 2020 . Paper based proforma was used to collect data from the electronic data system and results were statistically analysed using Microsoft Excel (2016).

Results

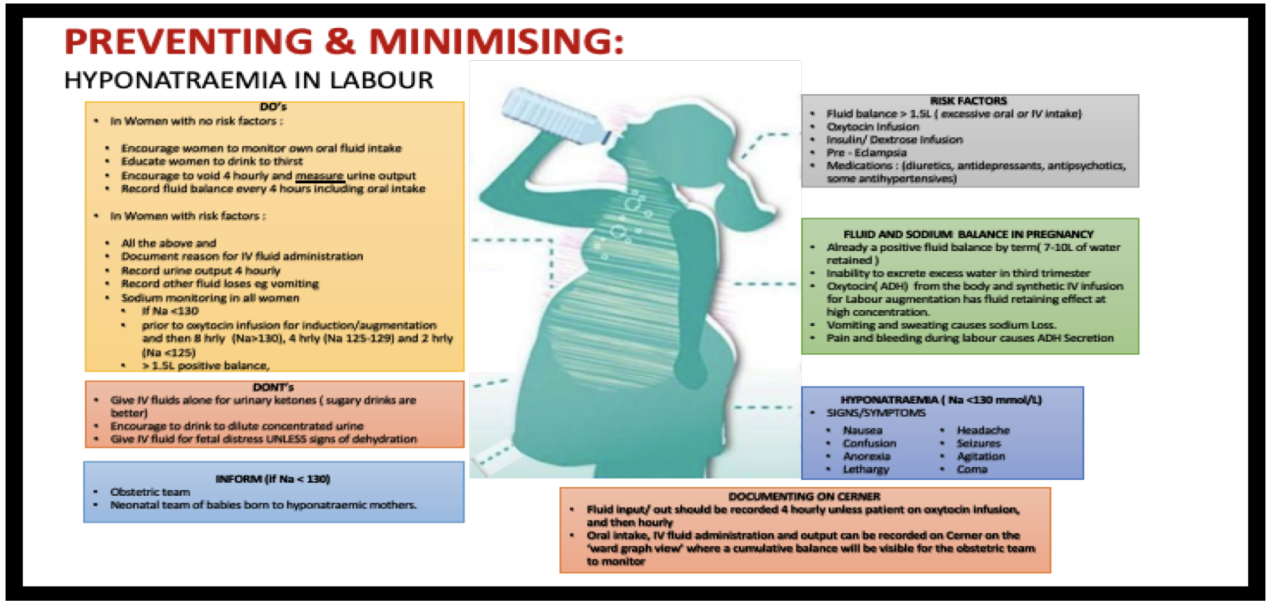
Fluid balance documentation was complete in only 5% of cases while in 30% of cases there was no documentation of fluid balance. Adequate documentation of oral intake was done only in 5% of the cases. Urine output was not documented adequately (2-4 hourly) in 80% of women.

12% (n=12) of women had > 2500mls of iv fluid during labour which is associated with a 26% risk of developing hyponatremia during labour.[2] Of these women only 33.4% (n=4) had sodium levels measured postnatally.

Women labouring with epidural in situ received on average 1535mls (95% CI 1530 to 1540) of fluid while women labouring without an epidural received significantly less, 1000mls (95% CI 996 to 1000).

3% (n=3) of women had hyponatraemia however sodium levels was measured only in 29 out of 100 women. One woman with hyponatremia showed mild symptoms. All 3 women who had hyponatremia received > 2000mls of fluids during labour with one woman receiving > 4000mls of fluid.

One patient received an insulin dextrose infusion and oxytocin infusion, which are recognised risk factors for developing hyponatraemia. This patient had only partial fluid balance recording and no measurement of sodium levels.



Discussion

Fluid balance is generally not accurately recorded on the labour ward outside the HDU setting.Women with a fluid balance >1.5L and other risk factors for hyponatraemia should have blood sodium level checked during labour. Sodium monitoring in women at risk of developing hyponatraemia did not meet standards for best practice.We shared the results with the obstetric MDT to highlight the incidence of hyponatremia and designed a leaflet stressing the importance of fluid monitoring and management during labour. This leaflet was circulated to the multidisciplinary team via email. Posters were put up in hand over rooms and display boards in labour ward and birth centre to disseminate this information. Through co-ordinated and ongoing MDT involvement and re-audit, we aim to improve our fluid management and reduce the incidence of hyponatremia.

References

1. GAIN Guideline for the prevention, diagnosis and management of hyponatraemia in labour and the immediate postpartum period. 2017. https://rqia.org.uk/RQIA/files/df/dfd57ddd-ceb3-4c0d-9719- 8e33e179d0ff.pdf
2. Moen, V., Brudin, L., Rundgren, M., et al. Hyponatraemia complicating labour - rare or unrecognized? A prospective observational study. BJOG, 2009; 116:552- 61.