Hypernatremic Dehydration in Term and Near-Term Neonates

Sir,

Neonatal Hypernatremic dehydration, NHD in apparently healthy breastfed neonates by day 3-13 is well described in literature.[1-7] Recent reports suggest incidence is increasing.[1] Early detection of NHD is not always easy because of variable clinical presentation.[2,6] It has been reported that environmental factors causing increased imperceptible losses,[3] early postpartum discharge and inadequate feeding are recognized as most important causes of NHD.[4]

We present a series of 30 cases of apparently healthy neonates, >34wk of gastation age and or 1.8 Kg of birthweight, discharged by day 2 in case of vaginal delivery and by day 4 to 5 in cesarean section. Thus presented over a period of one year with features quite similar to that of sepsis but on investigations finally diagnosed and managed as hypernatremic dehydration without sepsis. They were considered to have NHD only if weight loss was >10% of the birth weight and or >5% in 24 hours and serum sodium concentration was >149 meq/l at presentation. Babies who were sick looking, had respiratory distress, shock, received special medical treatment or had major congenital malformations were not included. Sepsis was ruled out in all the babies with laboratory investigations.

Out of all, 24 babies were born to primigravida mother and cesarean section rate was 60%. Mean day of presentation was 5.30 ± 2.33 and mean birth weight of these babies was 2.63 ± 0.398 Kg, mean weight loss was 15.74±5.072% and serum sodium values of 153.50 ± 9.78 meq/l. Presenting clinical features were; fever and poor feeding in 24 cases, decreased urine output in 22, lethargy in 19, constipation and icterus in 7 cases and seizures in 1. 62% mothers complained of inadequate lactation due to nipple anomalies or perception of not enough milk.

Primiparous mothers presented late (p=0.011) with more weight loss (p=0.026) and hypernatremia (p=0.005). 2–tailed significance of weight loss with serum sodium (p=0.000), blood urea (p=0.03) and serum creatinine (0.036) was obtained. There was significant correlation between day of presentation and weight loss (p=0.034). The same variables were compared between babies born *via* vaginal delivery and cesarean section. There was no significant difference in two groups other than hypernatremia, which was more in babies born to cesarean section mothers (p=0.061).

Summer months were taken as April-Sep and winter months as Oct-Dec. 83.5% cases were reported in summer months. Clinical symptoms were same in both summers and winters with significantly more (p=0.051) weight loss in summer months. Management was done by slow rehydration with 5% dextrose in N/2 saline. Breastfeeding was promoted and continued during fluid correction.

Early weighing coupled with appropriate lactation support and taking care of insensible losses in summers might result in early detection of cases of NHD.[5] Breast examination during antenatal period and more counseling to first time and cesarean section mothers might decrease the incidence of NHD.[7]

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