Relationship between hypernatremia & Intra-ventricular hemorrhage in very & extremely preterm neonates

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Abstract

Background and Objectives

For identifying important risk factors that contribute to intra-ventricular hemorrhage (IVH) and hypernatremia in early postnatal life of preterm neonates of extremely low birth weight, with gestational age (GA) matching appropriately and with birth body weight (BBW)

Material and Methods

The study has been designed to evaluate extremely preterm neonates with GA $\leq$ 26 weeks and BBW $\leq$ 1000 g, admitted to different hospitals during the 8 years. The data has been collected every month from 1990-2019

Results

The regression results indicated a significant relationship between sodium serum level and IVH, hypernatremia in extremely preterm neonates. Hypernatremia and fluctuations are related to sodium that seems to be associated with early severe IVH among preterm neonates. It is found that hypernatremia is a major risk factor for IVH in extremely preterm neonates. It is explored that the incidence of hypernatremia in extremely preterm neonates along with other contributing factors. It is recommended for future research to find other contributing factors to examine this research in further details.

Conclusion

There found some factors significantly affect resuscitation, vaginal delivery, hemoglobin, male sex, level of high sodium serum, fluctuation of serum sodium, and platelet counts are also associated within f severe IVH and hypernatremia. The study concludes, a significant positive relationship between hypernatremia & Intra-ventricular hemorrhage in very & extremely preterm neonates along with other contributing factors. However, further research is required to explore a causal relationship between IVH and hypernatremia in extremely preterm neonates.

Full Text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the manuscript can be downloaded and accessed as a PDF.

Figures

Figure 1

Lines are Loess Smoothers by Median Split. Grey area in background is 95% confidence interval for linear regression of X on Y by panel.

Figure 2

Distribution of Raw Residuals