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THE VOIDING PATTERN OF TERM NEWBORNS WITH HYPERBILIRUBINEMIA

Hypothesis / aims of study

Hyperbilirubinemia is common in neonatal period. Unconjugated bilirubin may cause brain injury by permeating blood brain barrier. In severe cases, it may lead to kernicterus. Whether the brain damage has effect on voiding pattern is still unknown. The aim of this study is to explore the effect of different degree of hyperbilirubinemia on the voiding pattern of newborn.

Study design, materials and methods

The four-hour voiding observation were performed on 52 newborns with the gestational ages ranged from 37 to 42 weeks, of whom, 18 were newborns with mild to moderate hyperbilirubinemia (MHB), blood total bilirubin level (Tbil) ranging from 221 $\mu\text{mol/l}$ to 342 $\mu\text{mol/l}$, and 15 with severe hyperbilirubinemia (SHB), Tbil >342 $\mu\text{mol/l}$. Nineteen ones with normal bilirubin level (NB), Tbil <221 $\mu\text{mol/l}$. The voiding frequency (VF), voiding volume (VV), post-void residual volume (PRV), and percentage of awake voiding (AVP) of every infant from 8AM to 12AM were recorded. A total of 328 voiding were observed in this study.

Results

The VF and PVR of SHB is higher than NB and MHB. The VV of SHB is lower than NB and MHB. There is no difference of AVP among 3 groups.

Interpretation of results

A total of 328 voidings were recorded. The VF and PVR [(3.3 \pm 1.1) times, (1.8 \pm 0.5ml)] of SHB is higher than NB [(2.7 \pm 0.8) times, (1.3 \pm 0.8) ml] and MHB [(2.7 \pm 0.8) times, (1.4 \pm 0.7) ml], (P<0.05). The VV of SHB (23.1 \pm 8.3) ml is lower than NB (27.8 \pm 7.3) ml and MHB (26.9 \pm 5.6) ml, (P < 0.05). There is no difference of AVP among 3 groups.

Concluding message

There is a significant change of voiding pattern in newborn with severe hyperbilirubinemia indicating the severe hyperbilirubinemia has an effect on the nerve micturition center.

Disclosures

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