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Measurement of Blood Phenobarbital Concentration Within Newborns Admitted to the NICU of Imam Reza Hospital and Received the Drug by Intravenous Mode

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Abstract : Introduction: Newborns may be treated with phenobarbital for many reasons. Because in each region, depending on different races and genetic factors, different pharmacokinetic conditions govern the drug. It is essential to control blood levels of certain drugs, especially phenobarbital, and maintain these levels during treatment. Methods: In this study, venous blood was collected from 50 neonates who received intravenous phenobarbital at a loading dose of 20 mg/kg weight and at least three days had passed since the maintenance dose of 5 mg/kg body weight. in 24 hours. and sent to the laboratory. Phenobarbital blood levels were measured, then the results were analyzed descriptively. Results: In this study, the average weight of newborns was 9.93 ± 2.58. The mean blood concentration of phenobarbital, three days after starting the maintenance dose in the group of infants weighing more than 2.5 kg, was 3.33 ± 9.1 micrograms/liter in the group of infants weighing less than 2 kg. and half a kilogram or LBW was 5.9 ± 9.5 micrograms/liter and in the group weighing less than 1.5 kg VLBW was 14.4 ± 15.46 micrograms/liter. There was no significant difference between groups ($p>0.05$). Three days after starting the maintenance dose in all three groups, the mean blood phenobarbital concentration was 9.86 ± 0.86 micrograms/liter. Conclusion: Blood phenobarbital levels in our newborns are below therapeutic levels, so phenobarbital levels should be evaluated.

Keywords : poisining, neonats, phenobarbital, drug
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