The effect of intravenous immunoglobulin on admission duration and mortality rate related to sepsis in preterm neonates

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Abstract

Background: The infection in the neonatal period is a significant cause of mortality in the preterm neonates. The transfer of the immunoglobulin from mother to fetus occurs mainly after 32 to 34 weeks of gestation. Therefore, preterm neonates are relatively immune compromised. The aim of the study was to evaluate the impact of intravenous immunoglobulin on mortality rates reduction in preterm neonates.

Methods: A randomised clinical trial conducted from Jan 2008 to July 2009 in Imam Reza hospital of Kermanshah - Iran. The population was 40 preterm neonates with gestational age less than 34 weeks admitted in the NICU with probable sepsis (clinical sepsis + Lab test). They have been divided into two case and control groups with 20 subjects in each group. The case group received 500 mg/kg intravenous immunoglobulin during first 24 hours of admission in addition to routine treatments, which were the same in both group. Before and 6 hours after administration of intravenous immunoglobulin serum level of IgG was measured in treatment group. Then data were analyzed with SPSS software and Fisher’s exact test and X2 test were analyzed.

Results: Mortality rate was higher in control than treatment group, but it was no statistically significant. There were not significant differences in variables including the need for ventilation, exchange transfusion, admission duration and positive blood culture. Serum IgG levels significantly increased after administration of immunoglobulin in treatment group (p=0.001).

Conclusion: Using intravenous immunoglobulin in the treatment of sepsis increased serum level of IgG but did not effect on mortality rate and admission duration in preterm neonates.

Keywords: intravenous immunoglobulin, neonatal mortality, preterm neonates, blood infection
References


