Effect of Intensive Phototherapy Treatment of Neonatal Jaundice CD4 and CD8 T-Lymphocyte subsets

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Abstract

Introduction: Jaundice is the most common condition that requires medical attention and hospital readmission in newborns. Serum bilirubin levels may rise excessively, which can be cause lifelong neurologic sequelae (kernicterus).

Objectives: To investigate the effect of intensive phototherapy on the expression of CD4 and CD8 lymphocyte subsets in neonates with indirect hyperbilirubinemia.

Patients and Methods: This is a prospective study included 30 full term neonates admitted to neonatal intensive care unit, Minia university hospital and 20 full term healthy neonates during the period from October 2016 to October 2017.

Results: There were no significant differences regarding CD4%, CD8% and CD4/CD8 ratios in neonates with indirect hyperbilirubinemia either before or after phototherapy. After phototherapy there were no significant differences between cases and controls as regarding CD4% and CD4/CD8 ratio while there was a significant decrease in CD% in cases compared to controls (p value 0.03). A significant positive correlation between CD4% and age (r- value 0.39, p-value 0.02) was present in cases.

Conclusions: The results demonstrated that in addition to the well-known positive effect of phototherapy on neonatal serum bilirubin level, this treatment have no effect on the function of the immune system in neonates as regards CD4 and CD8 subsets as well as CD4/CD8 ratio.
**Key words:** Phototherapy, Neonatal, Jaundice, CD4, CD8, T-Lymphocyte