Pediatr Ther 2018, Volume: 8
DOI: 10.4172/2161-0665-C1-049

Effect of neonatal position during phototherapy in reducing bilirubin serum: An evidence-based case report

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Background: Neonatal jaundice is one of the most common problems in neonates, but most cases are physiologic. However, if left untreated several complications may appear from malaise to ultimately kernicterus that can permanently damage central nervous system due to toxic feature of excess bilirubin. Currently, phototherapy is the chosen prophylaxis treatment to prevent complications. Several studies have been conducted to increase its efficacy by modifying certain factors including the neonate's position during phototherapy. In addition, American Academy of Pediatrics Subcommittee on Hyperbilirubinemia guidelines (AAP, 2004) and National Collaborating Centre for Women's and Children's Health guidelines on Neonatal Jaundice (NICE, 2010) do not have any consensus regarding the neonate's position. Thus, the optimal position of the neonates during phototherapy remains vague.

Objective: The objective of this study was to compare the effect of supine position versus periodic change of position during phototherapy in late preterm and term neonates.

Method: PubMed and Cochrane were used for literature browsing. Articles were then selected based on inclusion and exclusion criteria. Selected articles were assessed with Oxford CEBM critical appraisal tools.

Results: Two randomized controlled trial and one systematic review were obtained. 2 RCT shows RR 1.10 and 1.12 with NNT 30 and 100 respectively. All three studies can be applied to our patient.

Conclusion: Changing the position of the neonates during phototherapy will not increase the efficacy of the treatment to lower total bilirubin serum.

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