

Vaccines R & D 2021: A study to assess the effect of phototherapy on serum magnesium levels in late preterm neonates with hyperbilirubinemia

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Abstract

Introduction: Jaundice is a common condition seen in neonates requiring phototherapy. Phototherapy on the other hand leads to depression of pineal gland by transcranial illumination resulting in decrease in melatonin level. Melatonin stimulates secretion of cortisone; cortisone usually causes resorption of calcium and magnesium leading to hypocalcemia and hypomagnesaemia. Bilirubin is known to cause neuronal injury by activating the NMDA receptors where as magnesium is an NMDA receptor antagonist, thus, having a protective effect on neuronal injury by bilirubin. In preterm it is known to have hypomagnesaemia, so this study was to see if phototherapy will further affect the magnesium metabolism. **Aims & Objectives:** The main aim of this study is correlation of magnesium and bilirubin levels; effect of phototherapy on magnesium levels. **Materials & Methods:** Study was done in NICU of KIMS Hospital, from June 2018 to June 2019 on late preterm neonates. Samples were collected for bilirubin and magnesium levels before and 48 hours post phototherapy, excluded all babies with pathological jaundice, other comorbidities. **Results:** The results indicated that the study was done on 56 babies of whom average magnesium values noted before phototherapy was 2.8 mg/dl and post phototherapy was 1.7 mg/dl showing a significant difference; $p < 0.05$ with 95% confidence interval, and using Chi-square method and SPSS software. **Conclusion:** Magnesium is an important element for body functioning and its deficiency leads to many morbidities. As in preterm many supplements are being given, may be its time for magnesium supplements to be considered for late preterm neonates undergoing phototherapy.

Biography

Nannapaneni Meghana is doing her Postgraduate course in a Medical Institute. She has done one Oral paper presentation in her state conference; she has a paper presentation coming up in national conference, and has not yet published her studies.