

عنوان مقاله:

Melatonin Supplementation as Adjuvant Therapy for the Prevention of Bronchopulmonary Dysplasia in Neonates

محل انتشار:

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خلاصه مقاله:

Background: Neonatal bronchopulmonary dysplasia (BPD) is a chronic chest disease caused by prolonged ventilation and oxygenation which leads to neonatal disability. **Methods:** It was a prospective randomized clinical trial (RCT) (Study ID: TCTR20191211004) which was conducted in Tanta University Hospital (TUH) from July 2016 to March 2018 on 100 preterm neonates who exhibited severe respiratory distress (RD) on mechanical ventilation (MV). The studied neonates were assigned to two groups: group one which received melatonin supplementation and group two which did not. Urinary β 2-microglobulin (B2M) and serum Krebs von den Lungen-6 (KL-6) levels were measured 3 and 10 days after hospitalization. The length of neonates' stay in incubator was determined, and the number of newborns with established BPD was calculated. **Results:** Significant decreases were detected in urinary B2M and serum KL-6 levels of neonates in group one who received melatonin, as compared to their counterparts in group two who did not take melatonin ($P < 0.05$). In addition, there was a significant decline in the length of incubator stay of neonates in group one, in comparison to that of newborns in group two ($P < 0.05$). Moreover, neonates in group one who received melatonin displayed a significant decline in the development of established cases of BPD, as compared to group two who did not take melatonin ($P < 0.05$). **Conclusion:** As evidenced by the obtained results, melatonin supplementation could be used as adjuvant therapy for the prevention of BPD in preterm neonates. Nonetheless, further studies involving a larger number of neonates must be performed on this topic in order to recommend melatonin administration for ventilated premature neonates who are susceptible to the development of neonatal BPD.

کلمات کلیدی:

Bronchopulmonary dysplasia, Melatonin, neonate

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