

## The protective effect of hyperbilirubinemia on retinopathy of prematurity

**Adi Ben Ishai Becker**

Tel-Aviv University, Tel-Aviv, Israel

**Background:** Retinopathy of prematurity (ROP) is a major cause of irreversible blindness worldwide. Oxidative injury contributes to the development of ROP, and studies have shown a possible protective effect of bilirubin on ROP because of its antioxidative traits.

**Aim:** To determine the association between bilirubin levels in very-low-birth-weight neonates and the severity of ROP

**Materials and Methods:** This is a single-center, retrospective study of all neonates weighing < 1500 g, born between 1997 and 2015. Data about demographic characteristics, severity of ROP, and additional medical conditions were collected. An outcome score was calculated to include the prematurity-related morbidities such as ROP, bronchopulmonary dysplasia, necrotizing enterocolitis, periventricular leukomalacia, and periventricular hemorrhage.

**Results:** Analysis of the data of 1,477 neonates demonstrated a lower rate of significant ROP with peak bilirubin levels > 9.4 mg/dL compared with lower bilirubin levels (6% vs 10%,  $P = .01$ ). ROP was also shown to have a significant correlation with additional morbidities. Peak bilirubin levels  $\leq 14$  mg/dL and  $\leq 12$  mg/dL correlate with a lower outcome score ( $P = .003$  for each), but not for bilirubin levels  $\leq 9.4$  mg/dL ( $P = .611$ ).

**Conclusion:** A narrow range of bilirubin levels might have a protective effect against ROP and additional morbidities. Further studies are warranted to determine the specific range of bilirubin level that could potentially protect against ROP without increasing the risk of other complications of prematurity.

### Biography

Adi Ben Ishai Becker is a passionate pediatrician in her final year of residency at Schneider Children's Hospital in Petach Tikva, Israel. She has been serving as the Chief Resident for the past year, overseeing all residents, managing their schedules and guiding their academic progress. She graduated with honors from Tel Aviv University, where she developed a strong foundation in both clinical practice and research. Throughout her residency, she has demonstrated a deep commitment to providing compassionate care for children and has worked across various pediatric specialties, honing her skills in emergency and intensive care, neonatology and immunology. In addition to her clinical work, she has a keen interest in advancing pediatric medicine through research, particularly in the areas of Neonatology and NICU. She is dedicated to staying up-to-date with the latest advancements in pediatric care and is eager to collaborate with fellow professionals to improve patient outcomes.

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