



ASSOCIATION OF RETINOPATHY OF PREMATURITY WITH NEONATAL SEPSIS IN PREMATURE INFANTS

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Abstract

Total 162 premature newborns were delivered and admitted in our tertiary care hospital in the neonatal intensive care unit between July 2023 and August 2023. Screening for Retinopathy of prematurity was done according to standard guideline while clinical characteristics such as fever, respiratory distress, lethargy/irritability, convulsions, refusal to feed, jaundice, intra ventricular haemorrhage and abdominal distension were used to make the diagnosis of neonatal sepsis. The study employed pathological markers, such as CRP, total leucocyte count, and immature to total neutrophil ratio, all of which are components of the sepsis screen for diagnosis. The purpose of this study is to observe the association between ROP and sepsis (both early and late onset) in premature neonates.

Keywords- Retinopathy of prematurity, Neonatal sepsis

Introduction

- ROP is a multifactorial Vaso-proliferative retinal disorder that can cause severe visual handicap.
- Risk factors include prolonged or labile oxygen exposure and increased illness severity.
- Incidence: Approximately 65% of infants with a birth weight $<1,250$ g and 80% of those with a birth weight $<1,000$ g will develop some degree of ROP.
- In India, the national guidelines suggest that all infants born <34 weeks of gestational age should undergo screening. In those infants whose gestational age is not known or unsure, a birth weight of $<2,000$ g is used as a cutoff.
- Preterm infants with spontaneously regressed ROP can also have vision impairment and refractive errors. Infants with significant ROP have an increased risk of myopia, anisometropia, astigmatism, strabismus, amblyopia, late retinal detachment, and glaucoma.
- Early onset sepsis is defined as the onset of neonatal sepsis before 72 hours of life while Late-onset neonatal sepsis is defined as occurring from 72 hours to 90 days of life.

Study procedure

Aim and objectives:

- ❖ To observe the association between ROP and sepsis (both early and late onset) in premature neonates.

Material and methods:

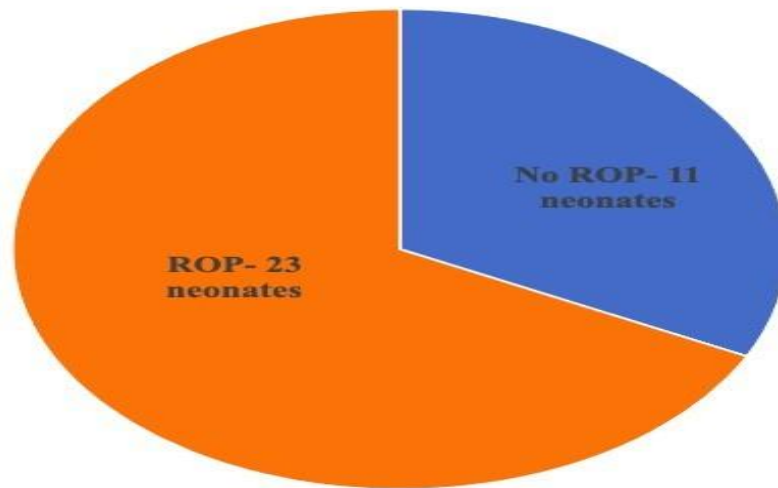
- ❖ Place of study :NICU, MGM institute of health sciences, Kalamboli, Navi Mumbai.
- ❖ Duration : Two months (July 2023 – August 2023)
- ❖ Study design : Observational study (case control)

Results

- Of 162 premature newborns delivered during two months of study duration, 34 neonates were screened for ROP according to national standard guidelines of which 23 infants were diagnosed with some stage of ROP.
- Total of 8 infants were tested positive for sepsis screen during the NICU stay during these 2 months, which included 2 infants having early onset sepsis and remaining 6 infants affected with late onset sepsis.
- 6 of the 8 infants presented with some stage of ROP (i.e. 75% of septic infants) at the time of 1st screening.
- Rest 17 infants who developed ROP were not affected with any form of sepsis until the time for 1st screening.
- Our analysis showed that sepsis was closely related to any stage of ROP (OR = 1.58, 95% CI being 1.06 to 2.33) in premature infants.

CONCLUSION: Sepsis increases the risk of ROP in premature infants. But considering that our study was observational and causality can rarely be established.

Incidence of ROP amongst 32 neonates that were screened



INCIDENCE OF ROP AMONG SEPTIC NEONATES

