

AN OBSERVATIONAL STUDY TO DETERMINE THE ROLE OF SEPTICEMIA IN RETINOPATHY OF PREMATURITY AMONG PRETERM BABIES

ABSTRACT:

AIM AND OBJECTIVES:

1. To determine the association between septicaemia and retinopathy of prematurity among preterm babies.
2. To analyse septicemia as a risk factor for “severe ROP”.

STUDY DETAILS:

Prospective observational study conducted on 100 babies for a period 6 months from March 2018 to August 2018 at Department of Ophthalmology, Government Rajaji Hospital, Madurai.

INCLUSION CRITERIA:

- Premature neonates of <34 weeks of gestation, of either sex, both inborn and outborn,
- Babies with birth weight <1.75 kg,
- Babies who satisfied Systemic Inflammatory Response Syndrome (SIRS criteria) and were treated for culture proven late onset septicaemia with positive sepsis screen.

EXCLUSION CRITERIA:

- Babies with features of clinical sepsis by SIRS criteria with negative blood culture report.
- Babies with early onset sepsis
- Babies with congenital, neurological, cardiovascular anomalies.
- Babies whose mother referred from TORCH infection, HIV, Diabetes mellitus, Pregnancy Induced Hypertension.
- Babies of parents who are not giving consent for this study.
- Babies of irregular follow up during the screening period.
- Babies who did not survive the maximal screening ROP period.

METHODOLOGY:

The various parameters recorded were weight at birth, gestational age , age of postconception, risk factors such as anaemia, long term exposure to oxygen, neonatal jaundice, mechanical ventilation, use of any surfactant , Respiratory Distress Syndrome, sepsis, multiple births ,multiple blood transfusions, , and intraventricular haemorrhage.

Gestational age was calculated according to last menstrual period or according to the date mentioned by first trimester USG abdomen.

In our study the screening protocol for ROP was followed based on the guidelines by National Neonatology Forum (NNF).

The first retinal examination would be held at 4 to 5 weeks from the birth.

Retina examined with binocular indirect ophthalmoscope with +20 D lens.

Patient information and retinal findings recorded in the ROP screening case

sheet. For categorising ROP, revised ICROP guidelines and classification was

used. Followup schedule individualised based on the retinal findings and it

would be continued till retina vascularises completely or ROP regression noted

or until treated according to the ETROP guidelines.

In our study, “mild ROP” was termed for ROP where the severity not sufficient to meet the criteria for treatment according to “ETROP” and CRYO-ROP study and, “severe ROP” was termed for either the Type 1 ROP based on “ETROP study” findings or the threshold ROP, Aggressive ROP, stage 4 ROP(partial RD) or stage 5 ROP(total RD) that validates treatment.

Babies in our study will be categorised into two groups as follows:

GROUP 1: Preterm low birth weight babies with no sepsis(both clinically and culture negative babies)

GROUP 2: Preterm low birth weight babies with sepsis(clinically and culture positive)

Each group would be subdivided into -

- “Severe ROP” babies that necessitates treatment by guidelines of ETROP.
- Babies with no ROP and mild ROP who didn’t meet the criteria for ROP

treatment.

The association of babies with both clinical sepsis and culture proven late onset sepsis and the severity of retinopathy of prematurity would be noted and analysed.

The information collected regarding all the selected cases were recorded in a Master Chart. Data analysis was done with the help of computer by using SPSS 16 software.

Using this software, percentages, means, standard deviations were calculated and 'p'values were calculated from Student 't' test for raw data and chi square test for consolidated data to test the significance of difference between variables.

A 'p' value less than 0.05 is taken to denote significant relationship.

CONCLUSION:

- ❖ Our study showed that late onset sepsis is strongly associated with severe ROP that warrants immediate treatment by ETROP guidelines. When sepsis is present in preterm low birth weight babies, it should be considered as an independent risk factor for ROP.
- ❖ When sepsis babies are screened for ROP regularly, it will help to detect the ROP timely and treatment can be delivered at its earliest. Thus reducing the devastating sequela of ROP. It is also helpful to avoid unnecessary stressful examination on preterm infants who are not at risk of developing "severe ROP".

❖ Our study result emphasizes the ophthalmologists and the neonatologists to have more attention and special care to those babies with sepsis to predict and diagnose the disease much earlier before it is being diagnosed by the regular ophthalmic examination .It will help to intervene early and to prevent sight threatening complications.

KEY WORDS:

Retinopathy of prematurity, Sepsis, risk factors for Retinopathy of Prematurity, low gestational age and low birth weight.