

STUDY OF HYPOGLYCAEMIA IN LATE PRE TERM NEONATES OF NICU AND PNC OF A RURAL AREA

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ABSTRACT--The "late preterm" are defined as births between 34 weeks 1-6 days and 36 weeks plus 6 days of gestational age, post last menstrual period. At first appearance, late preterm infants have similarity to term infants in terms of Apgar scores, size, and weight. However, the care of these infants can be complex. They are often placed in well-infant nurseries under the same protocols as term infants and discharged before an adequate observation period. To study blood glucose levels in late preterm newborns admitted in NICU. To study incidence of hypoglycemia in late preterm newborns admitted in NICU. To study immediate outcome of hypoglycemic late preterm newborns. The study will be conducted in Neonatal Intensive Care Unit of JNMC and AVBRH, Sawangi (Meghe), Wardha. 2 years, August 2018 to July 2020. -75 Prospective Observational study All the late preterm newborns admitted in NICU. Infants of diabetic mother The late preterm with births between 34 weeks plus 1-7 days and 36 weeks plus 6 days of gestation calculated post last menstrual period admitted in the NICU will be included in the study. These neonates will be taken up for collecting blood sample at admission. Samples will be collected by heel prick (capillary blood) method. The glucose level will be measured using glucometer available in the NICU at 0-2, 4-6, 12, 24, 48 and 72 hours of life. Those who found hypoglycemic by glucometer method will be confirmed by Glucose oxidase method in the central laboratory

Keywords--HYPOGLYCAEMIA

I. INTRODUCTION

The "late preterm" defined as births between 34 weeks plus 1-6 days and 36 weeks plus 6 days of gestation calculated post last menstrual period (1-2).

At first appearance, late preterm infants have similarity to term infants in terms of Apgar scores, size, and weight. However, the care of these infants can be complex. They are often placed in well-infant nurseries under the same protocols as term infants and discharged before an adequate observation period. When compared the risk of hypoglycaemia in a preterm infant is higher compared to full term infants, and the risk approaching as high as 10% to 15% in late preterm neonates. (1-4)

The delayed activity of hepatic glucose-6-phosphatase is manifested by increased risk of hypoglycaemia compared to rise in activity observed after birth in full term infants (2-3). the steps of glycogenolysis and gluconeogenesis being catalyzed by above enzyme. Other factors contributing to the risk of hypoglycaemia are

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immature gastrointestinal system and poor coordination between suck and in the late preterm infant (4). The concentration of glucose in an infant when compared to maternal glucose at birth is 80%, falling to its lowest point between 30 to 90 minutes post birth and reaching a plateau. Rapid intervention being required in the first 2 to 4 hours of life(5-9)

II. AIM

To study blood glucose levels in late preterm newborns admitted in NICU.

III. OBJECTIVES

1. To study incidence of hypoglycemia in late preterm newborns admitted in NICU.
2. To study immediate outcome of hypoglycemic late preterm newborns.

IV. MATERIAL AND METHODS

Setting:

The study will be conducted in Neonatal Intensive Care Unit of JNMC and AVBRH, Sawangi (Meghe), Wardha.

Duration of study:

2 years, August 2018 to July 2020.

Sample Size: 75

Type of Study:

Prospective Observational study.

Ethical Committee approval:

The Institutional Ethical Committee permission will be taken to conduct this study before the data collection is started.

Inclusion Criteria:

All the late preterm newborns admitted in NICU.

Exclusion criteria: 1

Infants of diabetic mother.

Procedure of Study:

The late preterm with births between 34 weeks plus 1 to 6 days and 36 weeks plus 6 days of gestation and admitted in the NICU will be included in the study. The newborns will be examined for gestational age assessment

again by Modified Ballard Scoring system. The maternal history, birth events, neonatal history and examination will be recorded in a proforma.

These neonates will be taken up for collecting blood sample at admission. Samples will be collected by heel prick (capillary blood) method. The glucose level will be measured using glucometer available in the NICU at 0-2, 4-6, 12, 24, 48 and 72 hours of life.⁶ Those who found hypoglycemic by glucometer method will be confirmed by Glucose oxidase method in the central laboratory. Neonates detected to have hypoglycemia during this study will be managed according to the standard Protocol of the NICU for the management of hypoglycemia. Hypoglycemia was defined as blood sugar reading of less than 40mg/dl(8-9).

V. STATISTICAL ANALYSIS

The parameters, clinical and laboratory, of the study population will be expressed in terms of mean and \pm standard deviation (SD). Chi square test being used for Nonparametric categorical comparison and parametric continuous data comparison will be done by Student t test.

VI. EXPECTED OUTCOMES/RESULTS

The incidence of hypoglycaemia in late pre term neonates of a NICU of a pnc or rural area is expected to be high as compared to the preterm neonates due to overlooking of the transient problems in late preterm and considering these neonates as term and treating them as term neonates.

VII. DISCUSSION

In the current study, we expect to find hypoglycaemia in late preterm neonates to be more as compared to term neonates. Hence late preterm neonates require thorough monitoring to prevent hypoglycaemia. A number of studies related to the conditions in this study (10-33) and associated factors and diseases (34-73) were reviewed.

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