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## A PROSPECTIVE STUDY OF CLINICAL SPECTRUM OF "LETHARGIC NEONATE" AND STUDY OF ITS OUTCOME IN RELATION TO BIRTH WEIGHT

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**ABSTRACT:** To study the clinical spectrum (etiology) of newborn presenting with lethargy, and early recognition of associated problems & the mortality pattern in baby presenting with lethargy in relation to birth-weight.

**KEYWORDS:** Lethargy, Hypothyroidism, Hypoglycemia.

**INTRODUCTION:** Lethargy in the newborn presenting to the SCNU is a common symptom. Newborns have a limited capacity of disease expressivity. The symptoms and signs are often stereotypic. Lethargy in the neonate can be physiological or it might indicate an underlying serious life threatening illness such as birth asphyxia, septicemia, prematurity, hypothermia, hypoglycemia, endocrine causes like hypothyroidism, CAH, etc., intracranial bleeds, in-born errors of metabolism and may be due to some unexplained causes.<sup>1,2,3</sup> As there are few Indian studies on the clinical spectrum of lethargic newborn babies, we are contemplating the study at the level II NICU at Govt. General Hospital, Kurnool medical college, Kurnool.

### AIMS & OBJECTIVES:

1. To study the clinical spectrum (etiology) of new-born presenting with lethargy.
2. Early recognition of associated problems which may be life threatening so that early treatment can be instituted.
3. To study the mortality pattern in baby presenting with lethargy.
4. To analyze the outcome of new-born admitted to the NICU with lethargy in relation to birth-weight.

**STUDY DESIGN:** Prospective Study.

**MATERIALS & METHODS:** Babies who admitted in special care neonatal unit (SCNU) in Govt. General Hospital, Kurnool during the period between December 2010 and September 2011.

It is a prospective and interventional study.

It was undertaken on 410 babies of less than one month old admitted in SCNU presented with lethargy irrespective gestational age, birth weight, or place of delivery.

Informed consent was taken before study.

A detail history was taken including associated complaints along with lethargy and also maternal history, ante-natal and natal history and detailed examination was conducted including anthropometry, after that appropriate investigations sent for all babies including CBC, sepsis

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scream, serum glucose, serum calcium, and other investigations. If required in special situations like CXR, LFT, 2D-ECHO, renal profile, neuro-sonogram, CT/MRI BRAIN. Later treatment was given accordingly with help of IAP/AAP guidelines. All the data were recorded including course at hospital in pre-structured case record. Outcome and mortality patterns were analyzed for each case.

All the data analyzed with the help of Microsoft excel and SPSS-17 software.

**INCLUSION CRITERIA:** Babies of less than one month old admitted with c/o lethargy at SCNU, govt. General Hospital, Kurnool irrespective gestational age, birth weight, or place of delivery were included in study.

**EXCLUSION CRITERIA:**

1. Babies with severe congenital anomalies.
2. Babies with suspected IEM.

**OBSERVATION AND RESULTS:** Among 410 babies of less than one month age presented with lethargy other complaints commonly noted are poor feeding and decreased activity. Others include seizures, temperature instability, etc.

Male babies were admitted more when compared to females in ratio of 1.34: 1. (235/175).

Majority of babies admitted were delivered in hospital (Govt. /Private). Only 1/6<sup>th</sup> are delivered at home (60/355). In-born babies account for 37% of total newborns admitted (154/410). 23% (98/410) were pre-term babies of which preterm VLBW. Most babies were low birth weight babies (LBW). i. e. between 1.5-2.5kg - 196 (47.8%). Others include >2.5 kg - 132(32.2%), 1-1.5 kg - 70 (18%), <1 kg - 12(2%) which is comparable with Z. Mahamood anjum et.al<sup>4</sup> study showing in the form of 34.1%, 5.8% 4.2% respectively.

Babies admitted in SCNU with lethargy other common complaints encountered were poor-feeding and decreased activity. Comparable with Ahmed NU et al,<sup>5</sup> Karthikeyan et. al<sup>6</sup> described 'Lethargy' with poor feeding was present in half of the cases with septicaemia in their study.

Antenatal history was significant in about half of babies but not correlating to presentation and outcome of these babies in the study.

Majority of babies admitted in our hospital were birth asphyxias-184 out of 410 account for 45% of which mortality was 48% which is comparable with Seyal et al<sup>7</sup> (40%) & Z.Mahamood anjum et. al<sup>4</sup> study (38%). Next most common was Septicemia- 122 cases (32%) comparable with M M Hoque STUDY<sup>8</sup> followed by prematurity 43 cases (10%), hypothermia presented isolately in 25 babies (6.2%), hypoglycemia in 10 in 410 (2.5%) compared with F.Zayeri et.al<sup>9</sup> 6% Loughhead MK et. al<sup>10</sup> rest include others/unexplained cause in 26 babies (6.3%). Prognosis is poor for babies presenting with hypoglycemia which is similar to the jinee et al,<sup>11</sup> CD Dhanunjaya et al<sup>12</sup> studies.

**CONCLUSION:**

1. Babies admitted in SCNU with lethargy other common complaints encountered were poor-feeding and decreased activity.

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2. Out of all babies admitted birth-asphyxia is most common disease affecting babies followed by septicemia, prematurity and its related complications, hypothermia, hypoglycemia, others/unexplained.
3. Most of the babies admitted in SCNU were low birth weight (LBW) with birth weight between 1.5kg and 2.5kgs.
4. Most babies were affected most often than female babies and outcome also more favourable in female babies.
5. Most babies with birth asphyxia with birth weight of 1.5kg to 2.5kgs were dead with mortality rate of 48% (34/71). Similar results were obtained with sepsis also.
6. In VLBW babies situation is much worse.
7. Mortality is higher with premature babies 28 out of 43 (66%)
8. Prognosis is poor for babies presenting with hypoglycemia.

The need for strengthening all NICUs and the need for more hospital and community based studies in neonatology including measures to improve knowledge of medical and paramedical staff in peripheries which helps in early identification and referral of babies to higher institutes to improve mortality patterns.

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