



ORIGINAL RESEARCH PAPER

Physiology

**NEONATAL SEIZURES - A CAUSE ANALYSIS
(IN GOVT. RAJAJI HOSPITAL, MADURAI)**

KEY WORDS:

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INTRODUCTION:

Seizure is a clinical manifestation of an abnormal excessive paroxysmal electric discharge from the brain.

Neonatal period is the most vulnerable of all periods of life - as the immature brain has many differences that render it more excitable and more susceptible to develop seizures.

AIM:

To determine the incidence and etiology of seizures among neonates admitted in SNN & NICU, Govt. Rajaji Hospital, Madurai from November 2018 – August 2019.

MATERIALS AND METHODOLOGY

All admitted neonatal cases were examined and data on neonatal seizures was ascertained.

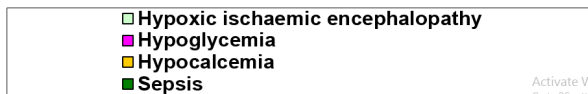
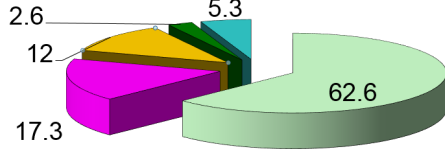
After getting informed written consent from the mother, the metabolic profile including blood glucose, serum calcium and sodium levels were estimated.

Seizures were observed in 131 / 1783 (7.3%) of neonatal admissions and 69.33% neonates had seizures during the first 72 hours of life.

ETIOLOGICAL FINDING

- Hypoxic ischaemic encephalopathy - 62.6 %
- **commonest cause**
(correlates with the study by Farid Ullah Shah et al, Hayatabad Medical Complex, Peshawar)
- Hypoglycemia - 17.3%
- Hypocalcemia - 12%
- Sepsis - 2.6%
- Idiopathic - 5.33%

ETIOLOGICAL FINDING OF NEONATAL SEIZURES



INFERENCE:

The incidence of neonatal seizures in GRH, Madurai was found to be 7.3%.

Commonest etiology - Hypoxic ischaemic encephalopathy

Commonest presentation – subtle type

DISCUSSION:

Seizure is a common neurological disorder in the neonatal age group. Developing brain has an increased susceptibility to seizure activity because of its immaturity.

Neonatal seizures may adversely affect the cerebral functions by causing loss of neurons.

1. Hypoxic ischaemic encephalopathy – damage to neurons due to FETAL HYPOXIA

- inadequate oxygenation of maternal blood
- maternal hypotension
- placental insufficiency
- impedance to the blood circulation through umbilical cord – compression / knots

2. Metabolic factors

- a) Hypoglycemia (blood sugar < 50 mg%)
- b) Hypocalcemia (< 8 mg% of Total Calcium) - isolated or in association with hypomagnesemia

3. Infections

4. Inborn errors of metabolism

5. Benign familial neonatal seizures – Autosomal Dominant

6. Idiopathic Age of onset of Neonatal seizures

S.No	Age	Etiology of neonatal seizure
1.	First day	Hypoxic ischaemic encephalopathy, hypocalcemia, cerebral contusion
2.	1 – 3 days	Hypoglycemia, Intra cranial hemorrhage, Inborn errors of metabolism
3.	4 – 7 days	Infections, Developmental malformations, Kernicterus

CONCLUSION:

As neonatal seizures are associated with increased mortality & neurological morbidity prompt, precise prenatal care & early management can reduce these rates

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