



RAMA
UNIVERSITY

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FACULTY OF NURSING

NEONATAL SEIZURES

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INTRODUCTION

Neonatal seizures are usually the clinical manifestation of a serious underlying disease. Seizures constitute a medical emergency because they signal a disease process that may produce irreversible brain damage.

DEFINITION

- A seizure is a paroxysmal behavior caused by hypersynchronous discharge of a group of neurons.
- Neonatal seizures are the most common overt manifestation of neurological dysfunction in the newborn.

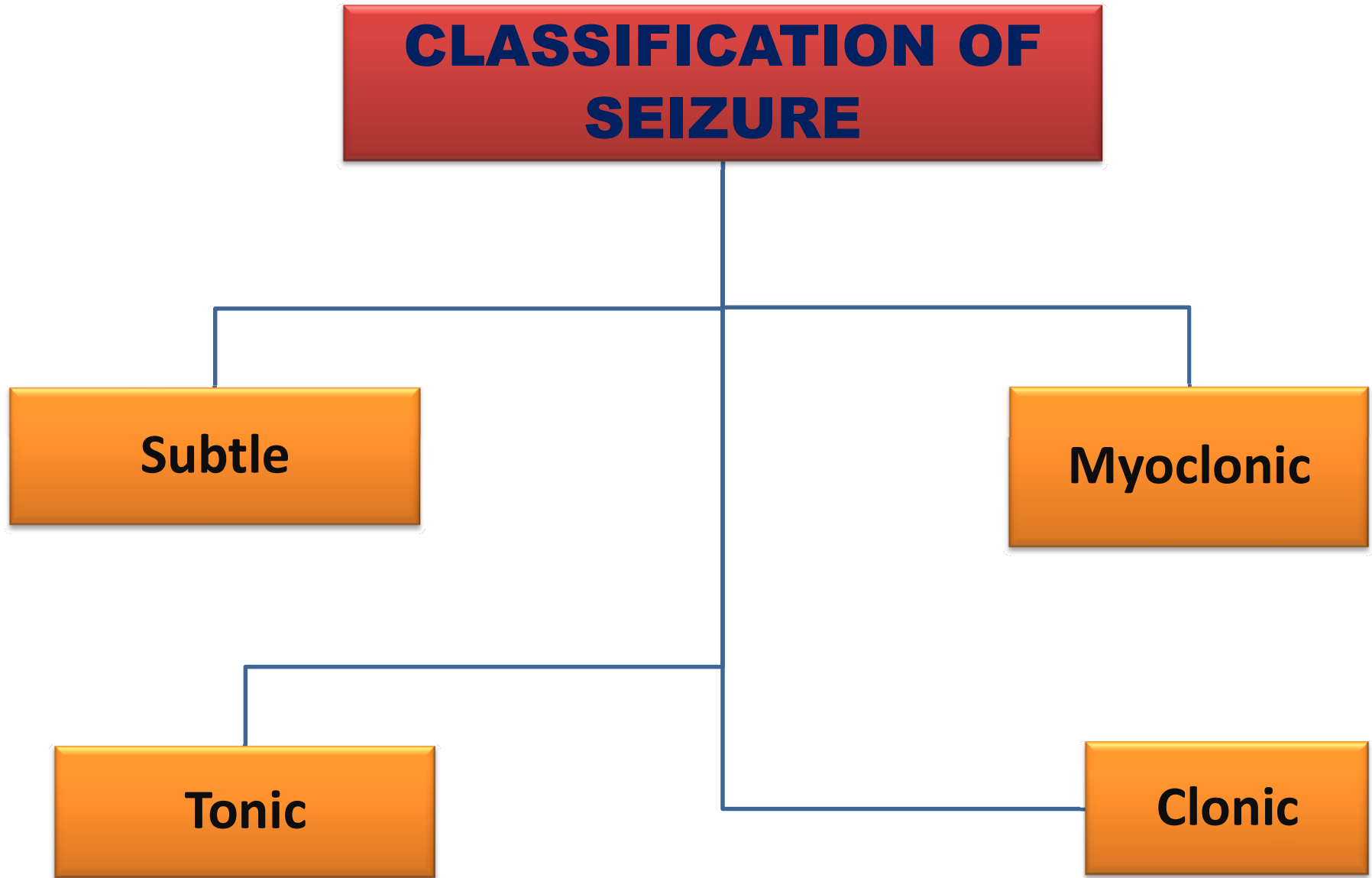
CLASSIFICATION OF SEIZURE

Subtle

Myoclonic

Tonic

Clonic



CLASSIFICATION OF SEIZURES

1. Subtle

- Specially seen in preterm and term.
- In this clinical manifestation are mild & frequently missed.
- Usually mild paroxysmal alterations in motor, behavior or autonomic function that are not clearly clonic, tonic or myoclonic.
- Commonest type constitute 50% of all seizures.

2. Tonic

- Primarily preterm.
- Characterized by flexion or extension of axial or appendicular muscle groups.
- May be focal or generalized
 - Decerebrate – tonic extension of all limbs
 - Decorticate – flexion of upper limbs & extension of lower limbs.
- No ECG change

3. Clonic

- Primarily term.
- Rhythmic movement of muscle groups.
- 1-3 jerk per second.
- Associated with EEG changes

4. Myoclonic Single or multiple lightning fast jerks of the upper or lower limbs and are Usually distinguished from clonic movements because of more rapid speed of Myoclonic jerks, absence of slow return and predilection for flexor muscle groups.

CAUSES OF NEONATAL SEIZURES

- Developmental defects
- Hypoxic-ischemic encephalopathy (HIE)
- Intracranial haemorrhage
- Metabolic causes
- Infections
- Miscellaneous

DIAGNOSIS/APPROACH

- Seizure history
- Antenatal history
- Perinatal history
- Feeding history
- Family history

TREATMENT

- **Initial medical management**

- Thermoneutral environment
- Ensure airway, breathing and circulation
- O₂ inhalation
- IV access & fluid administration
- Blood test for sugar and other investigations.
- A brief relevant history should be obtained
- Quick clinical examination

- **Hypoglycemia**

- **Check glucose level**

- If shows hypoglycemia,
- 2 ml/kg of 10% dextrose should be given as a bolus injection followed by a continuous infusion of 6-8 mg/kg/min.

NURSING MANAGEMENT

- **Emergency Care & observation during seizure:-**

A nurse should be prepared for first aid measures & should instruct to the family members. This includes:

- Lie down the child in a flat surface
- Loosen tight clothes
- Remove dangerous object from the area
- Do not force in to the child's mouth
- Allow the seizures to run
- After the seizures stop turn the child to one side to drain the saliva
- Check breathing pattern give CPR if needed
- Observe child until fully conscious
- Treat any injury if had

**Thank
You**