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Neonatal Jaundice.

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ABSTRACT

Jaundice is the one of the most common conditions needing medical attention in newborn babies. Jaundice refers to the yellow colouration of the skin and the sclera caused by the accumulation of bilirubin more than 5mg/dl in the skin and mucous membranes. Approximately 60% of term and 80% of preterm babies develop jaundice in the first week of life and about 10% of breast feed babies are still jaundice at 1month. Photo therapy and exposing the baby in sun light and for high bilirubin exchange blood transfusion are the treatment of choice.

Keywords: neonatal, jaundice, yellow coloration, bilirubin.

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INTRODUCTION

Jaundice is a yellow color of the discoloration in skin, the mucous membranes, and eyes. Jaundice comes from "French Word", Jaune- Yellow (or) Icterus [1-6].

Definition

Neonatal Jaundice or Neonatal **Hyperbilirubinemia** is a yellowing of skin and other tissue of a newborn infant. Bilirubin Level – More than 5mg/dl.

Risk Factors

- Baby born before 37Wks of gestation
- Weight less than 2500gm at birth
- Blood group incompatible with mother's blood group.

TYPES

- **Physiological jaundice**
- **Pathological jaundice**

Physiological Jaundice

Characteristic Feature:

- Appear in 24hrs of age
- Sometimes after 72hrs of life
- Increased level of bilirubin more than 5mg/dl/24hrs.

Causes:

- Excessive destruction of RBCs, Eg: Rh incompatibility
- Defect in conjugation of Bilirubin
- Failure to excrete the conjugated bilirubin
- Viral hepatitis
- Drug therapy, eg: vitk, silyclates

Physiological Jaundice it has two type

- Hemolytic
- Nonhemalitic

Hemolytic further divided into two type:

- Intrinsic
- Extrinsic

Intrinsic cause of hemolysis:

- Spherocytosis, Hereditary, Sepsis
- Arterioveous malformation, G6pd
- Sickle cell disease

Extrinsic causes of hemolysis

- Hemolytic disease of newborn, Rh disease, Breast milk feeding

Non Hemolytic causes

- Cephalohematoma, Polycythemia, Sepsis, Hypothyroidism

Physiological Jaundice

- Elevation of unconjugated bilirubin count due to various factors
- It appears during 1st week of life
- Increased bilirubin load on hepatic cells
- Defective bilirubin conjugation
- Defective uptake of bilirubin by liver from plasma

Characteristics of physiological jaundice:

- Appears between 30-72 hr of age in term babies earlier in preterm
- Maximum intensity of jaundice on
- 4th day in term baby & 5th day in preterm baby
- Serum bilirubin does not exceed 15mg/dl
- Usually disappears by 7-10th day in term 14th day in pre-term
- Subsides spontaneously, No treatment required

Conjugated bilirubin

It has Two type: 1. Hepatic 2. Post hepatic

Hepatic

CAUSES

- Sepsis, Hepatitis B
- TORCH (T-toxoplasmosis, O-other infection, R-rubella, C-cytomegalovirus, H-herpes simplex virus), Idiopathic.

Post Hepatic

- Biliary atresia (or) bile duct obstruction
- Non-organic causes and Breast feeding jaundice

DIAGNOSTIC EVALUATION

Clinical History

- Family history of jaundice (or) anemia
- Previous baby with neonatal jaundice
- Exchange blood transfusion & liver, Maternal viral infection
- Maternal drug intake like antimalarial sulphonamides.
- Maternal blood group & Rh factors

Physical Examination

- Yellowish discoloration of skin and mucous membrane should be done in natural light, Jaundice proceeds down ward to the trunk in intensity

LABORATORY

Non-Invasive Assessment

- Ingram Ictrometer, Transcutaneous bilirubinometer laboratory investigation
- Serum bilirubin level, Hb serum albumin
- RBC morphology, Direct comb's test
- Blood culture, Hematocrite count
- Reticulocyte count, Sepsis screen, Liver & thyroid function

MANAGEMENT

Aim

- Reduction of bilirubin level in safe level
- Prevention of CNS toxicity as kernicterus & brain damages.
- Prevention on Rh isoimmunization by anti-D gammaglobulin to Rh -ve.
- Mother in case of Rh +ve baby.
- Reduction of enterohepatic circulation by drug therapy.
- Intensive neonatal nursing.

Photo Therapy

- Early method of degradation of unconjugate bilirubin by photooxidation.
- In preterm babies phototherapy is started at serum bilirubin level 5mg/dl or more.

Drug Therapy:

- Charcoal
- Albumin infusion
- Exchange Blood Transfusion:
- In case of severe hyperbilirubinemia to prevent kernicterus & correct anaemia
- Done in seriously affected Rh isoimmunised erythroblastic babies.

PREVENTION:

- Administration of Anti D immunoglobulin
- Minimize fetomaternal bleeding during delivery.
- Prevent perinatal distress
- Adequate & early feeding
- Avoidance of jaundice aggregation drug
- Treatment of sepsis & hepatitis.

COMPLICATION

- Kernicterus
- Pathological condition of brain due to toxicity by unconjugate bilirubin.
- Transient encephalopathy increase lethargy with rise in bilirubin.

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