

DOI: 10.36648/2386-5180.8.4.328

Short note on Neonatal jaundice

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Received: September 17, 2020, **Accepted:** September 23, 2020, **Published:** September 30, 2020

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Introduction

Neonatal jaundice is a yellowish discoloration of the white part of the eyes and skin in a newborn baby due to high bilirubin levels. Other symptoms may include excess sleepiness or poor feeding. Complications may include seizures, cerebral palsy, or kernicterus.

About 60% of full-term newborn and 80% of premature babies are jaundiced.

In many cases there is no specific underlying disorder (physiologic). In other cases, it results from red blood cell breakdown, liver disease, infection, hypothyroidism, or metabolic disorders (pathologic). A bilirubin level more than 34 µmol/l (2 mg/dL) may be visible. Concerns, in otherwise healthy babies, occur when levels are greater than 308 µmol/L (18 mg/dL), jaundice is noticed in the first day of life there is a rapid rise in levels jaundice lasts more than two weeks, or the baby appears unwell. In those with concerning findings further investigations to determine the underlying cause are recommended.

Indirect serum bilirubin level = >5mg/dl.

Total (Conjugated & unconjugated) = > 12mg/dl at term.

Its total bilirubin > 20mg/dl causes bilirubin encephalopathy also called Kernicterus.

The need for treatment depends on bilirubin levels the age of the child and the underlying cause. Treatments may include more frequent feeding, phototherapy, or exchange transfusions. In those who are born early more aggressive treatment tends to be required. Physiologic jaundice generally lasts less than seven days. The condition affects over half of babies in the first week of life. Babies that are born early about 80% are affected. Globally over 100,000 late-preterm and term babies die each year because of jaundice.

Signs and symptoms

The primary symptom is yellowish discoloration of the white part of the eyes and skin in a new-born baby. Other symptoms may include excess sleepiness or poor feeding. A bilirubin level more than 34 µmol/l (2 mg/dL) may be visible. For the feet to be affected level generally must be over 255 µmol/l (15 mg/dL).

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Citation: Anusha P (2020) Short note on Neonatal jaundice. Ann Clin Lab Res. Vol.8 No.4:328

Complications

Prolonged hyperbilirubinemia (severe jaundice) can result in chronic bilirubin encephalopathy (kernicterus). Quick and accurate treatment of neonatal jaundice helps to reduce the risk of neonates developing kernicterus. Infants with kernicterus may have a fever or seizures. High pitched crying is an effect of kernicterus. Exchange transfusions performed to lower high bilirubin levels are an aggressive treatment.

Causes

In new-born, jaundice tends to develop because of two factors—the breakdown of fetal hemoglobin as it is replaced with adult hemoglobin and the relatively immature metabolic pathways of the liver, which are unable to conjugate and so excrete bilirubin as quickly as an adult. This causes an accumulation of bilirubin in the blood (hyperbilirubinemia), leading to the symptoms of jaundice.

If the neonatal jaundice is not resolved with simple phototherapy, other causes such as biliary atresia, Progressive familial intrahepatic cholestasis, bile duct paucity, Alagille syndrome, alpha 1-antitrypsin deficiency, and other pediatric liver diseases should be considered. The evaluation for these will include blood work and a variety of diagnostic tests. Prolonged neonatal jaundice is serious and should be followed up promptly