



Paediatrics

A STUDY OF JAUNDICE IN THE NEWBORN

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ABSTRACT

Jaundice is often found in the newborn. The yellow coloured skin often causes anxiety in the parents. It is caused by the accumulation of bilirubin in the blood. It can be caused by a plethora of causes. Some conditions can be serious where as others can be self-limiting. This study puts in an effort to study the jaundice of the newborn.

KEYWORDS : Jaundice, Newborn, Bilirubin.

INTRODUCTION:

Jaundice is often found in the newborn. The yellow coloured skin often causes anxiety in the parents. It is caused by the accumulation of bilirubin in the blood. It can be caused by a plethora of causes. Some conditions can be serious where as others can be self-limiting. The cause can be as a matter of fact can be linked to over-production or inefficiency of the liver to metabolise the bile. The incidence of infantile jaundice is 2 to 5 thousand^{1,2} with a variety of underlying diagnoses ranging from self-limiting breast milk jaundice to aggressive life-threatening diseases such as biliary atresia (BA) and liver failure. Although the clinical features of certain diseases are obvious, some may have more subtle presentations that necessitate a high index of suspicion for diagnosis. In general, the differential diagnoses of jaundice in infancy follow those of adults and can broadly be divided into pre-hepatic, hepatic, and post-hepatic causes. In some cases, specific treatment may not be necessary but more often timely management is required for an optimal outcome. This study puts in an effort to study the jaundice of the newborn.

AIMS AND OBJECTIVES:

To study the jaundice of the newborn.

MATERIALS AND METHODS:

This study was done in the Department of pediatrics, Kannur Medical College.

This study was done from Feb 2017 to Jan 2018.

The study was done in 323 cases that were delivered and a reference had been sought from the Department of Pediatrics.

Inclusion Criteria:

Confirmed cases of jaundice were considered as a case.

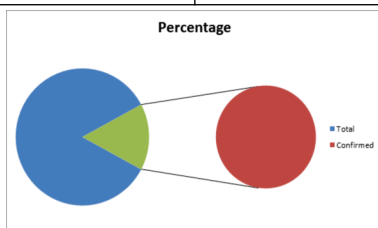
Exclusion Criteria:

Maternal Infections

RESULTS:

Table 1: Percentage of positivity

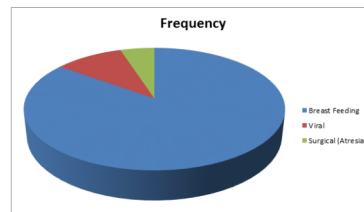
Total	Positive
323	60



Graph 1: Percentage of positivity

Table 2: Frequency

Factors	Frequency
Breast Feeding	51
Viral (Hepatitis)	06
Surgical (Atresia)	03



Graph 2: Frequency

DISCUSSION:

Breast milk jaundice was first described more than 50 years ago, with benign unconjugated hyperbilirubinaemia associated with breastfeeding.^{3,4,5} It is the most common cause of prolonged jaundice in an otherwise healthy breastfed infant born at term. It usually presents in the first 2 to 3 weeks of life (incidence has been reported as 34%),⁶ and can persist for as long as 12 weeks before spontaneous resolution. Total serum bilirubin levels in breast milk jaundice alone do not exceed 200 µmol/L. Diagnosis of breast milk jaundice requires the exclusion of other possible pathological causes. breast milk may enhance bilirubin uptake in the gastrointestinal tract, thus increasing enterohepatic circulation and unconjugated bilirubin levels.^{7,8} Higher levels of epidermal growth factor both in the serum and breast milk of affected infants may offer a plausible mechanism for breast milk jaundice in the same way.⁹ Activity of beta-glucuronidase (which deconjugates intestinal bilirubin) that is higher in human milk than formula milk will again increase the serum bilirubin level by increasing enterohepatic circulation.¹⁰ Glucose-6-phosphate dehydrogenase deficiency is a genetic condition with an X-linked recessive inheritance. Males are more likely to be affected. In Hong Kong, there is routine cord blood screening for G-6-PD deficiency and an incidence of around 4.5% in males and 0.5% in females.¹¹

Glucose-6-phosphate dehydrogenase deficiency-associated neonatal hyperbilirubinaemia can manifest in two forms: severe jaundice resulting from acute haemolysis or gradual onset jaundice. Some G-6-PD-deficient neonates may develop severe haemolysis that results in rapidly rising serum total bilirubin levels, with the potential to develop kernicterus, with or without the identification of a known trigger of haemolysis.^{12,13} Apart from haemolysis (as evidenced by a falling haemoglobin with elevated reticulocyte count), diminished bilirubin clearance plays a role in the pathogenesis of jaundice in G-6-PD deficiency infants. Serum conjugated bilirubin studies indicate diminished bilirubin conjugation in G-6-PD-deficient neonates.^{14,15}

Hepatitis A virus infection resulting in PALF is uncommon in developed countries (2.5% in a PALF registry in North America and United Kingdom).¹⁶ Nonetheless acute hepatitis A virus infection accounts for up to 80% of PALF cases in developing countries.¹⁷ Similarly, acute hepatitis B virus (HBV) infection causing PALF is uncommon in the West where HBV is not endemic. On the contrary, in areas where HBV is endemic, it accounts for up to 46% of PALF.¹⁸

The first description in the English language of a condition similar to BA appeared in a textbook written by Dr John Burns from the University of Glasgow in 1817.¹⁹ Nonetheless it was more than a century later before the first operation was performed by Dr William Ladd from Boston in an attempt to correct BA.²⁰ Unfortunately, his

surgery did not improve the outcome of this condition and BA was at this time regarded as 'the darkest chapter in paediatric surgery'. In 1959, Dr Morio Kasai from Japan reported his radical surgery for BA with a higher success rate.²¹

Even though other causes are there like G-6PD and Gilberts Syndrome they are very uncommon and have not been found in the study. Other viral cause that are known to cause the Hepatitis were also not seen.

CONCLUSION:

The most common cause is the breast milk associated Jaundice. Other causes were not seen in the present population.

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