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Jai Krishan
Assistant Professor,
Department of Neonatology,
National Institute of Medical Science and Research, Jaipur, Rajasthan, India

Correspondence
Jai Krishan
Assistant Professor,
Department of Neonatology,
National Institute of Medical Science and Research, Jaipur, Rajasthan, India

A study on neonatal jaundice from a tertiary care hospitals

Jai Krishan

Abstract
Introduction: Neonatal Jaundice typically results from the deposition of unconjugated bilirubin pigment in the conjunctiva, skin and mucus membranes when there is excessive amount of bilirubin in blood.
Aim: The aim of the study is to observe Neonatal Jaundice From A Tertiary Care Hospitals.
Material & Methods: The present study was a retrospective study conducted in tertiary care hospital carried out in 100 neonates. Data was collected for the mother taken information of term and preterm delivery, Weight of the baby, gender after delivery, education qualification, and estimation of bilirubin, ABO blood group estimation, and predisposing/etiologic factors.
Results: A study was conducted on 100 jaundice neonate having 78 term delivery among them 54 where male and 24 were females and 22 preterm deliveries 08 were male and 14 were females. As per the education of the mother there were 16 were complete in schools, 56 were intermediate and 28 degree qualification. In many of delivery cases neonates has hyperbilirubinemia, hyperbilirubinemia may be due to many causes. As per this study due to G6PD deficiency there were 42 neonates followed by ABO Incompatibility 38, LBW 12 and infectious 8. Neonate weight may also play a role in neonatal hyperbilirubinemia, as per this study Majority of the neonates were in Normal Birth weight 69 followed by Low birth weight 12, Very low birth weight 11 and Extremely low birth weight 9.
Conclusion: hyperbilirubinemia neonate was males having G6PD deficiency, ABO Incompatibility, Low birth weight, Infections and normal birth weight. Parents having intermediate qualification, Parents has to be educated with neonatal hyperbilirubinemia can prevent other complication in neonates.

Keywords: Hyperbilirubinemia, neonatal jaundice, low birth weight

Introduction
Jaundice is a pediatric condition associated with yellow coloration of the skin and sclera in the new born due to the accumulation of unconjugated bilirubin [1]. In these infants, unconjugated hyperbilirubinemia (also referred to as abnormally high serum bilirubin) may reflect a normal transitional phenomenon. The mechanisms responsible for jaundice include excessive production, decreased hepatic uptake or impaired conjugation of bilirubin, intra-hepatic cholestasis, hepatocellular injury and extra hepatic obstruction [2, 3]. Hyperbilirubinaemia is defined as a total serum bilirubin level above 5 mg/dL (86 μmol per L) [4].

Material & Method
Study area and duration: The present study was a retrospective study conducted in tertiary care hospital carried out in 100 neonates
Source of data: Alive neonates diagnosed with neonatal hyperbilirubinemia attending department.
Data collection: Data was collected for the mother taken an information of term and preterm delivery, Weight of the baby, gender after delivery, education qualification, estimation of bilirubin, ABO blood group estimation, and predisposing/etiologic factors.

Inclusion criteria
1. Neonate of both genders.
2. Mother / guardian of neonate who will give written informed consent.

Exclusion Criteria
1. Death of the neonate
2. Mother / guardian of neonate who are not ready to give written informed consent.
3. Mother / guardian who are not able to answer the question.

Statistical analysis: The data were collected, entered and a master table was prepared using MS Excel software. The data were analyzed using appropriate statistical tools like percentage, and a conclusion was drawn accordingly.

Ethical clearance: The ethical clearance of the study was obtained from the ethical committee of the institute.

Results

Table 1: Tabular column representation of gender in term and preterm delivery

	Term delivery (78)		Preterm delivery (22)	
	No of patients	% no of patients	No of patients	% no of patients
Male	54	69.23%	8	36.36%
Female	24	30.76%	14	63.63%

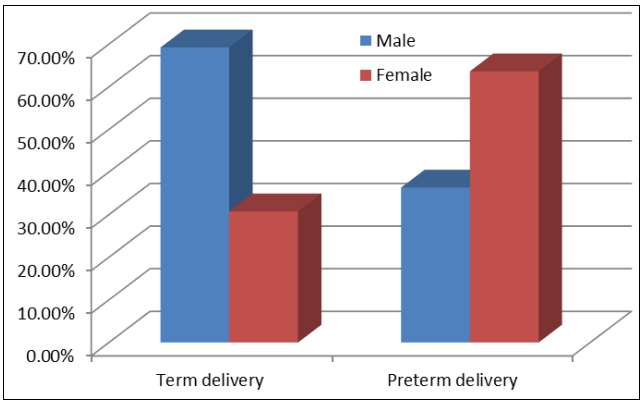

Fig 1: Graphical representation of gender in term and preterm delivery

Table 2: Tabular column representation of education quantification of mother

S. No	Education qualification	Education quantification of mother	Percentage
1	Primary School	16	16.00%
2	Intermediate	56	56.00%
3	Degree	28	28.00%
Total		100	100%

Table 3: Tabular column represents the deficiency causing jaundice in neonates

S. No	Deficiency causing jaundice in neonates	No of patients	% No of patients
1	G6PD deficiency	42	42.00%
2	ABO Incompatibility	38	38.00%
3	Low birth weight	12	12.00%
4	Infections	8	8.00%
Total		100	100%

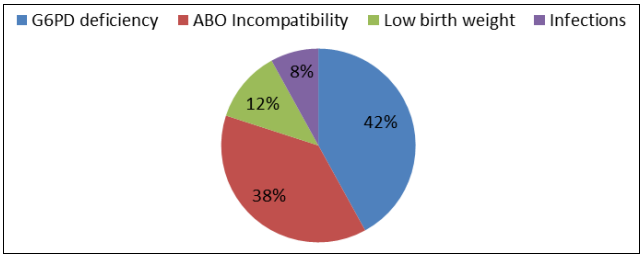

Fig 2: Pie diagram represents the deficiency causing jaundice in neonates

Table 4: Tabular column represents the birth weight of neonates in hyperbilirubinemia

S. No	Birth weight	No of patients	% No of patients
1	Extremely low birth weight	9	9.00%
2	Very low birth weight	11	11.00%
3	Low birth weight	12	12.00%
4	Normal Birth weight	69	69.00%
Total No of patients		100	100.00%

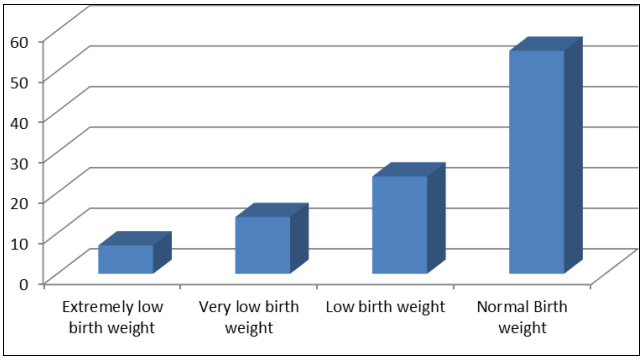

Fig 4: Graphical representation of the birth weight of neonates in hyperbilirubinemia

Discussion

The present study was a retrospective study conducted in tertiary care hospital**.** A study was conducted on 100 jaundice neonate having 78 term delivery among them 54 where male and 24 were females and 22 preterm deliveries 08 were male and 14 were females. Our study coincides with the study of Bedi, *et al.* (2018) [4] he conducted his study of 128 babies, among them 63 were female and 65 males. As per the education of the mother there were 16 were complete in schools, 56 were intermediate and 28 degree qualification. Our study does not coincides with the study of Chime *et al.* (2011) [5] in his study he observed that majority of the mother were in Primary 150 followed by Secondary 100, and Tertiary 22. In many of delivery cases neonates has hyperbilirubinemia, hyperbilirubinemia may be due to many causes. As per this study due to G6PD deficiency there were 42 neonates followed by ABO Incompatibility 38, LBW 12 and infectious 8. Our study also coincides with the study of Bedi *et al.* (2018) [4] On evaluating the causes of neonatal hyperbilirubinemia, he reported that 26.5% of neonates had ABO incompatibility, 12.5% were Rh incompatible, 7.8% babies showed clinical or laboratory evidence of sepsis, 2.3% had cephalhematoma, and 4.6% had polycythemia. Neonate weight may also play a role in neonatal hyperbilirubinemia, as per this study Majority of the neonates were in Normal Birth weight 69 followed by Low birth weight 12, Very low birth weight 11 and Extremely low birth weight 9. We're as the mean average birth weight was Mean 2.99±0.47 kg. Our study coincides with the study of Bedi *et al.* (2018) [4] he conducted his study of 128 neonates. Among them 3.9% were extremely low birth weight (LBW), 9.3% very LBW, 14% LBW, and 72.6% normal birth weight and the mean birth weight was 2.93±0.47 kg. Chime *et al.* (2011) [5] concluded in this study that babies whose mothers had low level of education and having Glucose-6-phosphate dehydrogenase deficiency, ABO incompatibility and low birth weight were found to be major predisposing/etiologic factors.

Conclusion

As per this study neonate with hyperbilirubinemia were males and their parent's education qualification were intermediate

and neonates with G6PD deficiency, ABO Incompatibility, Low birth weight, Infections and normal birth weight. Parents should get educated with neonatal hyperbilirubinemia can prevent other complication in neonates.

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