



HYPERBILIRUBINEMIA; PREVALENCE OF HYPERBILIRUBINEMIA AND CAUSATIVE FACTORS IN NEONATES ADMITTED IN NEONATAL UNIT PEDIATRIC WARD NAWABSHAH.

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ABSTRACT... Objectives: The main objective of this study was to look at the burden of neonates, who develop hyperbilirubinemia and the cause of hyperbilirubinemia in these neonates. **Setting:** Neonatal Unit of Pediatric Ward of PMC Hospital, Nawabshah. **Study Design:** Observational study. **Period:** Jan 2016 to December 2016. **Materials and Methods:** Total 194 neonates were found to have hyperbilirubinemia, out of 2863 babies admitted during this period. Files of these neonates were taken and following data was extracted regarding total, direct and indirect bilirubin, blood groups and Rh typing. In selected cases following investigations were also done: TORCH profile, Urine D/R, Thyroid profile and Ultrasound abdomen. **Result:** 194 babies out of 2863 admissions in neonatal unit were treated as hyperbilirubinemia. 108 babies were male and 86 were females. Regarding the gestational age, 56 babies were preterm and 138 were full term babies. Among various causes of hyperbilirubinemia, physiological jaundice was seen in 109 patients, 22 were having direct hyperbilirubinemia, 36 were due to blood group incompatibility, 15 were due to birth injuries, 4 were having hypothyroidism and 2 were labeled as breast milk jaundice. In 6 patients no single cause was pointed out. **Conclusion:** Hyperbilirubinemia is still a main cause for admissions in NICU, among the causes of hyperbilirubinemia physiologic jaundice was most common. Prematurity predisposes to aggravating hyperbilirubinemia and its complications.

Key words: Neonatal Hyperbilirubinemia, Physiologic.

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INTRODUCTION

Neonatal jaundice is a common condition, with around 60% of infants developing visible jaundice.^{1,2} Rarely neonatal jaundice can progress to acute bilirubin encephalopathy and kernicterus, overwhelming conditions that are preventable with early detection and treatment of unconjugated hyperbilirubinemia.³ The introduction of exchange transfusion made it possible to prevent severe hyperbilirubinemia and kernicterus, but unfortunately kernicterus has never completely disappeared and it is still occurring in North America and, more frequently in Western Europe and the developing world.³ of course the situation in developing and underdeveloped countries is worse than we think because of under reporting of the actual situation. Hyperbilirubinemia is categorized further in physiological and pathological jaundice depending on the age

of onset. The most dreaded complication of hyperbilirubinemia is kernicterus.⁴ Kernicterus is associated with severe neurological sequela in survivors.⁴ Although kernicterus is not a common occurrence in developed countries but still it's a common complication in underdeveloped and developing countries.⁵ Common risk factors that predispose a neonate to develop complications of hyperbilirubinemia are breast milk, ABO incompatibility, cephalhematoma, prematurity and birth trauma.⁶ This study was done in purpose to see the prevalence and common risk factors that are associated with hyperbilirubinemia in our setup.

MATERIALS AND METHODS

This study was performed in neonatal unit of pediatric ward of PMC Hospital, Nawabshah during January 2016 to December 2016. Total 194

neonates were found to have hyperbilirubinemia, out of 2863 babies admitted during the study period. Files of these neonates were taken and following data was extracted regarding total, direct and indirect bilirubin, blood groups and Rh typing. In selected cases following investigations were also done: TORCH profile, Urine D/R, Thyroid profile and Ultrasound abdomen.

RESULTS

194 babies out of 2863 admissions in neonatal unit were treated as hyperbilirubinemia. 108 babies were male and 86 were females. Regarding the gestational age, 56 babies were preterm and 138

were full term babies. Among various causes of hyperbilirubinemia, physiological jaundice was seen in 109 patients, 22 were having direct hyperbilirubinemia, 36 were due to blood group incompatibility, 15 were due to birth injuries, 4 were having hypothyroidism and 2 were labeled as breast milk jaundice. In 6 patients no single cause was pointed out.

DISCUSSION

Neonatal Hyperbilirubinemia is quite frequent finding seen in neonates, but the causative factors need to be searched out as some needs proper management and follow up.

Percentage of Patients with Hyperbilirubinemia

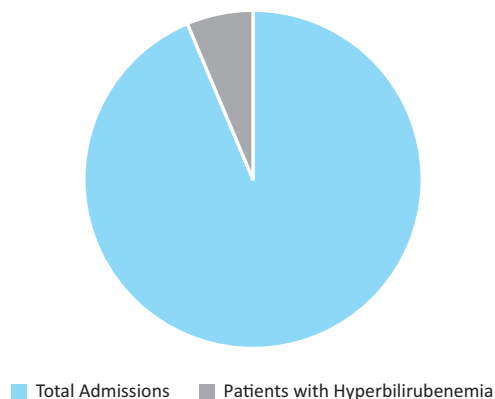


Figure-1

Gender Distribution

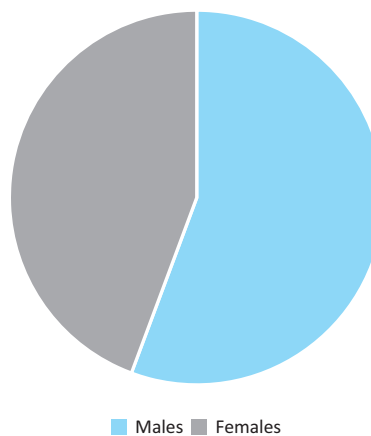


Figure-2

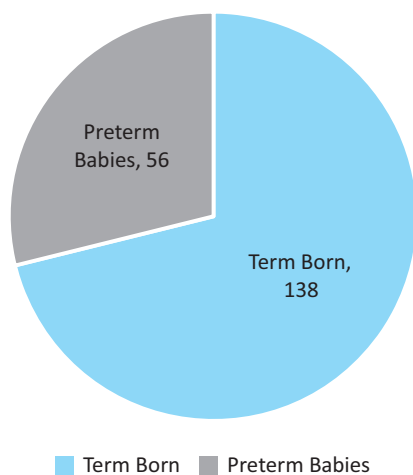


Figure-3

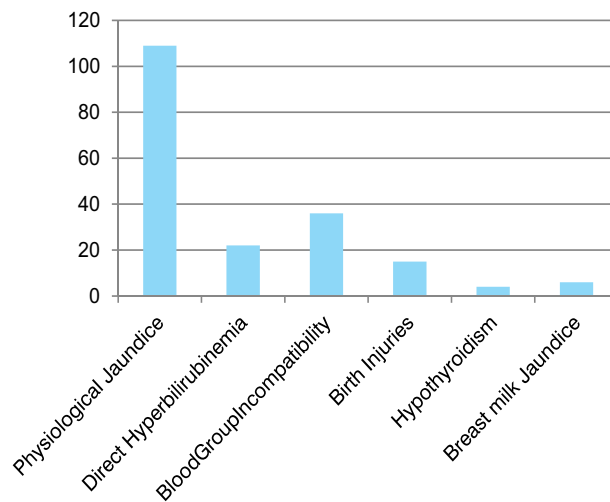


Figure-4

This study was conducted in order to look at the burden of jaundiced neonates in our set up and also to look at various causes. The number of neonates who developed hyperbilirubinemia was 6.77% (194 out of 2863). Studies from India show almost similar prevalence.^{7,8} Gender distribution in our study shows male predominance (108 males, 86 females), this finding is in agreement with the study of Kulkarni et al⁹ and the study done by Kumar A⁷ shows a contrasting result with female predominance. Preterm babies constituted 28.86% of these neonates with hyperbilirubinemia, this percentage is in contrast with Kumar's study⁷, where more patients were preterm and also study done in Bangladesh by Bedowra et al¹⁰ reported a high prevalence of preterm babies in jaundiced neonates. Regarding the causative factor the most common cause in present study was physiological jaundice, similar findings are seen in other studies.^{7,11,12} Next most common cause was hyperbilirubinemia due to blood group incompatibility, which is in agreement with the study by Choudhury et al.¹³ The rest of the causes were birth injuries like cephalhematoma, breast milk jaundice and hypothyroidism. These findings are quite similar with the other studies.^{7,10-12}

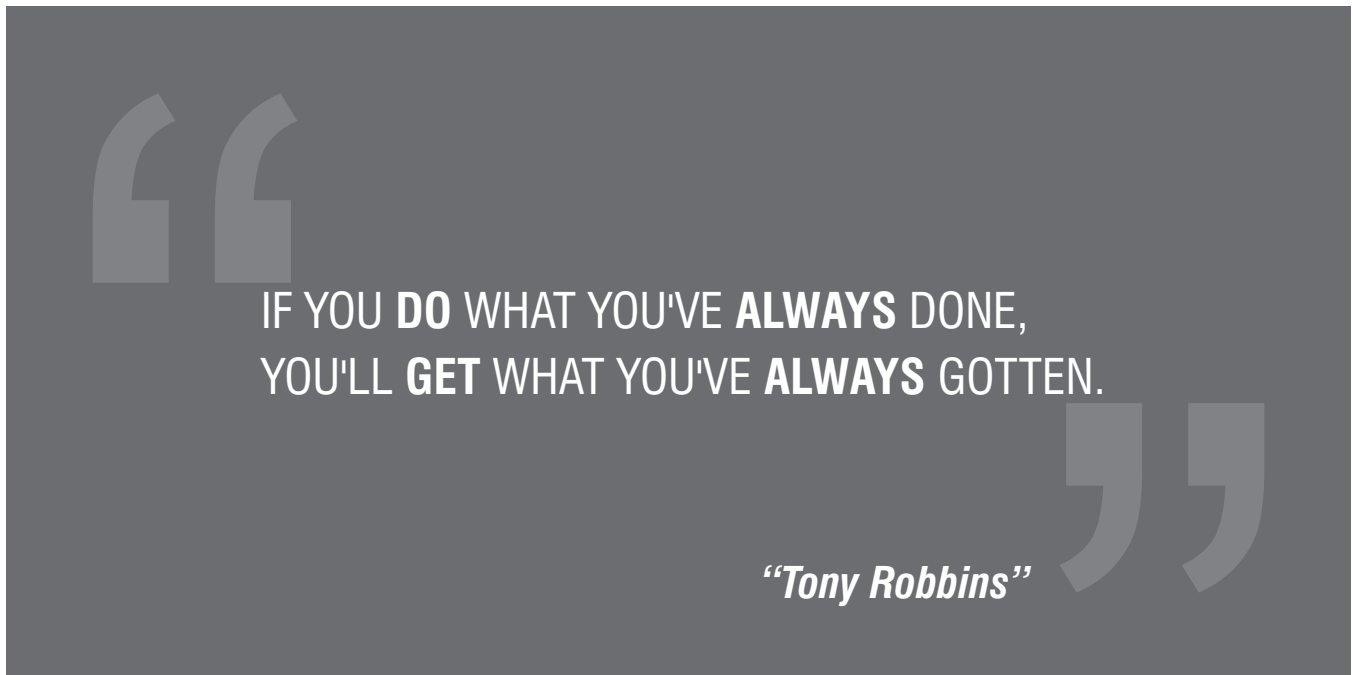
CONCLUSION

Hyperbilirubinemia is still a main cause for admissions in NICU and if not present at admission it appears during admission, among the top causes of hyperbilirubinemia physiologic jaundice was most common. Prematurity predisposes to aggravating hyperbilirubinemia and its complications.




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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Ali Akbar Siyal	Conceived designed, Manuscript editing, Final Approval.	
2	Juverya Naqvi	Introduction, Statistical analysis.	
3	Tabinda Taqi	Discussion, Critical analysis, Literature search.	
4	Sania Haider	Literature review, Bibliography.	