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HYPERBILIRUBINEMIA IN NEW BORN: A REPORT OF FIVE CASES

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Abstract

During clinical posting all five new born were assessed for hyperbilirubinemia in detail. All were babies were having yellowish discolouration on skin, eyes and baby was very weak. Majority were term babies, having normal birth weight and anthropometric measurements were normal. The total bilirubin count is very high in all the babies. All the babies were receiving phototherapy. After couple of days of phototherapy the bilirubin level is dropped.

Keywords: Hyperbilirubinemia, newborn, bilirubin

Background

Hyperbilirubinemia in new born is very common condition seen in the clinical scenario. There are multiple factors contributing to the high incidence of hyperbilirubinemia. The physiological immaturity of liver, breast feeding technique, breast milk and rarely even pathological condition leads to hyperbilirubinemia especially in new born babies. Five patients were identified to compare the history, physical parameters and treatment measures.

Case presentation

Patient – 1

Chief Compliants: yellowish discolouration on skin, eyes and baby was very weak. Baby have compliants of respiratory distress

Prenatal history: uneventful, no complications during pregnancy and delivery, received all vaccines, treatments during pregnancy. Mode of delivery is normal vaginal delivery.

Patient – 2

Chief Compliants: yellowish discolouration on skin, eyes and baby was very weak. Baby have no other compliants.

Prenatal history: no complications during pregnancy and delivery, received all vaccines, treatments during pregnancy. Mode of delivery is LSCS

Patient – 3

Chief Compliants: yellowish discolouration on skin, eyes and baby was very weak. Baby have compliants of respiratory distress. Baby is small for gestational age.

Prenatal history: no complications during pregnancy and delivery, received all vaccines, treatments during pregnancy. Mode of delivery is normal vaginal delivery

Patient – 4

Chief Compliants: yellowish discolouration on skin, eyes and baby was very weak. Baby have no other compliants.

Prenatal history: no complications during pregnancy and delivery, received all vaccines, treatments during pregnancy. Mode of delivery is normal vaginal delivery

Patient – 5

Chief Compliants: yellowish discolouration on skin, eyes and baby was very weak. Baby have no other compliants.

Prenatal history: no complications during pregnancy and delivery, received all vaccines, treatments during pregnancy. Mode of delivery is normal vaginal delivery

Table: 1 Comparison of vitals and anthropometric measurements

Particulars	**Age**	**Gender**	**Apgar Score**	**Weight**	**Length**	**Head circumference**	**Temperature**	**Pulse**	**Respiration**
Patient – 1	2 days	Female	7	3.25 Kg	51 cm	34 cm	98.4º F	140 b/m	24 b/m
Patient – 2	4 days	Male	7	2.5 Kg	50 cm	33 cm	98.6º F	142 b/m	36 b/m
Patient – 3	3 days	Male	6	1.6 Kg	49 cm	30 cm	98.4º F	138 b/m	22 b/m
Patient – 4	3 days	Male	9	3.65 Kg	52 cm	34 cm	98.4º F	144 b/m	36 b/m
Patient- 5	2 days	Female	9	3.4 Kg	49 cm	33.5 cm	98.6º F	142 b/m	38 b/m

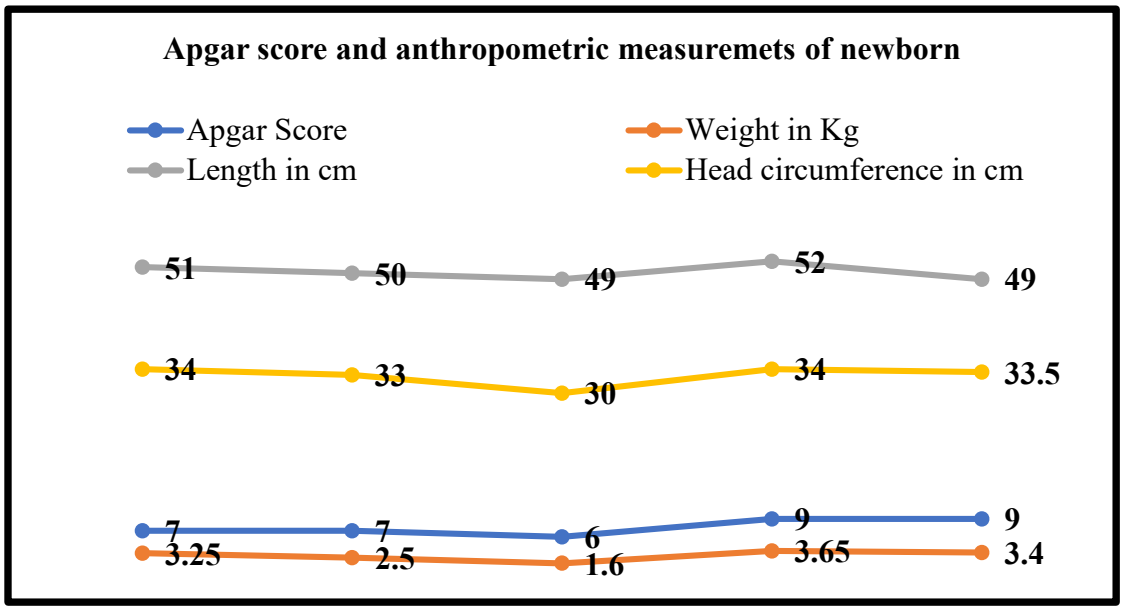

Figure: 1 represents the APGAR scoring and anthropometric measurements of the newborns. One of baby have mild respiratory distress during 1st minute APGAR scoring and low birth weight. The length and head circumference is within normal range in all five babies.

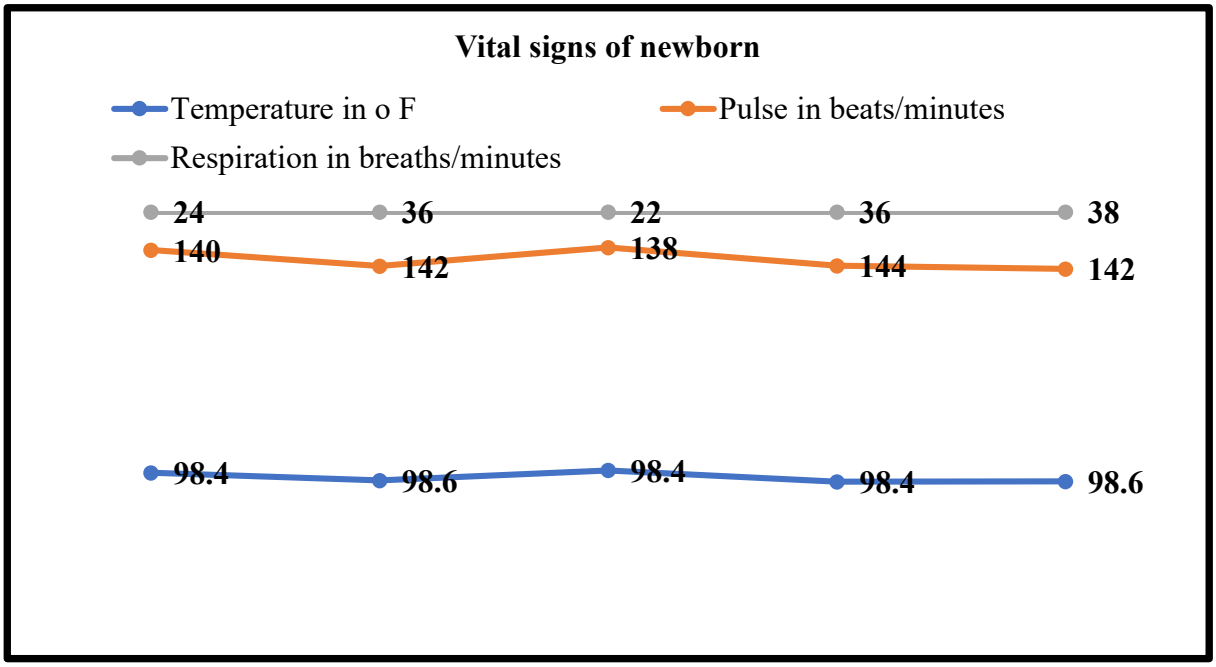

Figure: 2 depicts the vital signs of newborn, the two babies who were having respiratory distress have bradypnoea, the temperature and pulse rate is normal in all five newborns.

Table: 2 Comparison of investigations, medications and treatment

Particulars	Total bilirubin	Haemoglobin	Medications	Treatment
Patient – 1	15.6 mg/dL	15.8 gm%	Inj. Ampicillin 150 mg IV BD Inj. Taxim – 50 mg/kg IV BD	Double phototherapy

			Tab. Caverta – 0.5mg/kg oral	
Patient – 2	14 mg/dL	16.8 gm%	Inj. Ampicillin 150 mg IV BD Inj. Taxim – 50 mg/kg IV BD Tab. Caverta – 0.5mg/kg oral Inj. Rantac 1 mg/kg	Double phototherapy
Patient – 3	14.6 mg/dL	16.1 gm%	Inj. Ampicillin 150 mg IV BD Inj. Oflox – 5 mg/kg IV BD Inj. Aminophylline 2.5 mg/Kg IV Inj. Rantac 1 mg/kg	Triple phototherapy
Patient – 4	16 mg/dL	18.6 gm%	Inj. Ampicillin 150 mg IV BD Inj. Taxim – 50 mg/kg IV BD	Double phototherapy
Patient- 5	13.8 mg/dL	17.8 gm%	Inj. Ampitum – 100 mg/Kg IV BD Tab. Caverta – 0.5mg/kg oral Inj. Rantac 1 mg/kg	Double phototherapy

Nursing care

The nursing care includes especially during phototherapy includes:

- Daily assessment of skin colour
- Routine blood investigation to monitor bilirubin level
- Health education of parents to provide the importance of phototherapy
- The care of newborn babies in undergoing phototherapy
- Explain the mothers about the importance of covering the scrotum and eyes
- Assessing the skin integrity and hydration status of babies
- Check for any complications like kernicterus
- Maintain the body temperature of newborn
- Explain the follow up care to mothers during discharge

Discussion

The analysis all five new born babies. The age of babies ranges from 2 to 4 days. Three babies are females and two are male babies. Majority of babies APGAR score at birth is 7. The respiratory condition is almost normal since majority are term babies. Except one preterm baby rest all babies are having normal birth weight. The length, head circumference, temperature, pulse and respiration is normal for all the babies. In current study out of five babies only one baby was small for gestation and having low birth weight. A study conducted in South India in 2016 states that neonatal jaundice is most common in term and it is even more common in preterm babies. Their study results suggest the majority of the neonatal jaundice is due to physiological immaturity of liver.[1]

The total bilirubin in all five cases ranges from 13.8 - 16 mg/dL, haemoglobin ranges 15.8 - 18.6 gm%, all the babies is receiving antibiotics and phototherapy. The level of bilirubin was spiked in all the five case scenario. Early identification of bilirubin can be best choice of preventing the incidence of hyperbilirubinemia in newborns. Cord blood samples can be collected to estimate the albumin level, which predicts the chance of hyperbilirubinemia. The international study results shows that cord blood albumin is good indicators of early identification jaundice in new born[2]. American academy of paediatrics study suggests that early breast feeding,

systematic assessment, prompt follow up, proper treatment with phototherapy and exchange transfusion is helpful in reduction of jaundice[3].

In current study all babies manifest with yellowish discolouration of skin and weak. In 2022 Berthe et al conducted a study, the results shows that all the babies were yellowish in colour[4].

Patient's perspective

All the mothers were not have any abnormal history like pregnancy induced hypertension, gestational diabetes mellitus, and no other abnormalities. All were taken iron and folic acid tablets during pregnancy. The mothers have not had any consanguineous marriage. Mothers were all tensed about the child in phototherapy.

Conclusion

Hyperbilirubinemia is the most common condition seen in newborn babies. Five babies were assessed during clinical conditions. The detailed prenatal, natal and postnatal history were collected from mothers. Apgar scoring, neonatal assessment and neonatal reflexes were assessed for all the babies. The babies were receiving extensive exposure of phototherapy for four to five days. The new-borns were managed well with antibiotics and phototherapy.

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