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Pathology

HEMATOLOGICAL PROFILE IN NEONATAL JAUNDICE

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ABSTRACT

Background: To study the hematological changes in physiological neonatal jaundice in Saveetha medical college and hospital,Chennai.

Methods: Selection of cases were done from routine cases reporting to neonatal ward and department of paediatrics, from Saveetha medical college and hospital with the clinical evidence of jaundice in neonates. Blood from the patient is collected and haemoglobin count, total leucocyte count, absolute neutrophil count is done.

Results: Study includes 50 cases in last six months of July in 2018. From the data analysis there is increased haemoglobin in 21 patients, decreased total leucocyte count in 40 patients, increased absolute neutrophil count in 20 patients.

Conclusion: The results can be used for easy and simple investigation method for diagnosis of physiological neonatal jaundice.

KEYWORDS : Haemoglobin, Leucocyte Count, Absolute Neutrophil Count

INTRODUCTION:

Jaundice is one of the most common conditions requiring medical attention in newborn babies. Approximately 60% of term and 80% of preterm babies develops jaundice in the first week of life ,and about 10% of breast fed babes are still jaundiced at one month of age.in most babies with jaundice there is no undelying cause termed as physiological jaundice which is generally harmless.

Neonatal jaundice refers to yellow colouration of skin and the sclera of new babies that results for accumulation of bilirubin in the ski8n and the mucous membrane. This associated with a raised level of bilirubin in the circulation, a condition known as hyperbilirubinaemia.

The most common causes of neonatal jaundiced in India is physiological, other factors commonly incriminated are premature birth, sepsis and bacterial infections ,rhesus isoimmunization, ABO incompatibility,G6PD deficiency,RBC membrane disorders ,cephalhematoma and drug induced.Through history and clinical presentation of new borns plays a major role , thelaboratory investigations plays a vital role in diagnosing and differentiating physiologic form from pathological jaundice.

The objective of the study was to study the hametological changes in physiological jaundice.

METHODS:

The present study was conducted in the department of pathology in Saveetha medical college and hospital ,Chennai. The time period for the study is in the last six months of the year2018.The list of cases presented with neonatal jaundice are collected from Medical Record Department from Saveetha medical college and hospital,Chennai. further the lab diagnosis sheet of the patients is collected from department of haematology and the collected data is analysed.

Haemoglobin level	No. of patients
Increased levels	21
Normal	18
Decreased levels	11

RESULTS;

The present study includes 50 cases of neonates admitted in a tertiary hospital. The present study is done mainly on haematological changes in physiological type of neonatal jaundice. The study mainly concentrate on haemoglobin, Total leucocyte count and absolute neutrophil count.

1)HAEMOGLOBIN LEVELS:

The analysis shows that out of 50 cases there is increased levels in 21 patients and decrease in 11 patients and other 18 cases are normal. The normal haemoglobin levels in neonates is 16-18gm/dl.

2)Total Leucocyte Count:

The analysis shows that out of 50 cases there is increase in 3 patients and decrease in 40 patients and other 7 cases are normal. The normal total leucocyte count is 16,000-18,000 cells/cu.mm.

3)Absolute Neutrophil Count:

The analysis shows that out of 50 cases there is increase in 20 patients and decreased in 8 patients and normal levels in 22 cases. The normal Absolute Neutrophil count is 3000-6000 cells/cu.mm.

DISCUSSION:

Jaundice is one of the most common conditions requiring medical attention in newborn babies. Approximately 60% of term and 80% of preterm babies develop jaundice in the first week of life, and about 10% of breast fed babies are still jaundiced at one month of age.

Neonatal jaundice refers to yellow colouration of the skin and the sclera of newborn babies that result from accumulation of bilirubin in the skin and mucous membranes. This is associated with a raised level of bilirubin in the circulation, a condition known as hyperbilirubinaemia.

Breast fed babies are more likely than bottle-fed babies to develop physiological jaundice within the first week of life, but the appearance of jaundice is not a reason to stop breastfeeding. Physiological jaundice refers to the common, generally harmless, jaundice seen in many new born babies in the first weeks of life and to which there is no underlying cause other than the usual post birth adaptation

Finally, it may be that this is a relative reduction of bilirubin levels in formula fed babies due to increased clearance of bilirubin from the gut. Jaundice may also have other, non-physiological, causes, including blood group incompatibility (most commonly rhesus or ABO incompatibility), other causes of haemolysis, sepsis, bruising and metabolic disorders. Deficiency of a particular enzyme,glucose-6-phosphate dehydrogenase (G-6-PD), can cause severe neonatal jaundice.

Levels of bilirubin can be controlled by placing the baby under a lamp emitting light in the blue spectrum known as phototherapy.

Total Leucocyte Count	No. of patients
Increased cases	3
Normal	7
Decreased levels	40

CONCLUSION:

To conclude, most of the cases were having idiopathic jaundice although septicaemia and ABO-Rh incompactibility can be seen in these cases also.

The results can be used for early and simple investigation method for the diagnosis of physiological type of neonatal jaundice.

Absolute Neutrophil Count	No. of patients
Increased levels	20
Normal	22
Decreased levels	8

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