



Original Article

A Clinico - Etiological Study of pigmentary dermatoses in North Indian Neonates in A Tertiary Health Care Center

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ABSTRACT

Background: Cutaneous lesions are commonly seen in the newborn period and may range from transient cutaneous manifestations to more severe pathological conditions. There are limited reports on the prevalence of pigmentation conditions in newborns.

Aims and objectives: To study the clinical pattern of various pigmentary dermatoses in neonates at a tertiary care hospital in North India

Materials and methods: This was a descriptive cross-sectional and observational study done in our institute with detailed dermatological examination of each neonate followed by recording each finding and their statistical analysis over a period of one year.

Results: Among 1245 neonates, 928 (74.5%) were delivered by normal vaginal delivery and 317(25.5%) by lower segment cesarean section (LSCS). 45(3.6 %) Mothers were below 20 years of age, 1180 (94.8%) were of 20-30 years of age and 20 (1.6%) above 30 years of age .646 were female babies (52%) and 599 (48%) were male babies.985 neonates were born term babies (79%), 228 pre-term (18%) and 32(3.1%) post-term. 918(73.7%) neonates were having normal weight while 327(26.3%) were low birth weight. The commonest pigmentary dermatoses noted were Mongolian spots 593(47.6%), genital hyperpigmentation 379(30.4%), acrocyanosis 126(10.1%), Erythema toxicum neonatorum 109(8.7%), Cafe au- lait macule 3(0.24%), melanocytic nevus 2(0.16%) and nevus spilus 1(0.08%). Vascular birthmarks observed were salmon patch 104 (8.3%) and port wine stain 2 (0.16%).The genital hyperpigmentation was more common in post term male babies ($p < 0.001$). Erythema toxicum neonatorum was seen mainly among preterm male neonates having significant p value ($p < 0.001$).

Conclusion: Studying neonatal pigmentary dermatoses holds significance to dermatologists so they are able to differentiate physiological and pathological conditions thereby relieving unnecessary therapy for neonates in circumstances not requiring any and also facilitating to allay undue anxiety among parents.

Keywords: Mongolian spots, Genital hyperpigmentation, Acrocyanosis.

INTRODUCTION

Neonatal cutaneous conditions are dermatological skin manifestations that are present from birth or appear during the first 24 hrs of life. These cutaneous findings vary from physiological and transient manifestations caused by the developmental process of the skin and its structures to major significant pathological conditions^{1,2,3}. Many of these findings are benign and do not require immediate treatment, however some skin manifestations and specific birth marks are serious and require proper treatment. There are very few studies regarding pigmentary cutaneous lesions or birthmarks in new borns.⁴ Therefore, the present study was undertaken to review the pattern of pigmentary neonatal dermatoses in the babies delivered in our hospital. The data will be further applied for creating awareness among both dermatologists and pediatricians.

AIMS AND OBJECTIVES

To study the clinical pattern of various pigmentary dermatoses in newborns at a North Indian tertiary hospital.

MATERIALS AND METHODS

This was an observational, cross-sectional and descriptive study done at our institute over a period of one year. A total of 1245 cases were studied after recruiting them from the postnatal wards of obstetrics and Gynecology Department of the teaching medical college. The study subjects were examined on the first day of life after taking informed consent from the parents. A detailed history including sex of the neonate, maturity, birth weight, mode of delivery, age of mother, gestational age (in weeks) was recorded. A meticulous general physical and dermatological examination was undertaken. Neonate was examined in good light in a state of complete undress taking precautions to prevent hypothermia. General physical and systemic examination was done. A detailed dermatological examination including palms, soles, genitalia, scalp, nails, hair and mucosa was done in each case. As all variables in our study were qualitative they were expressed as percentage values. The data was subjected to statistical analysis using SPSS (22.0, IBM Analytics, New York U.S.A). A Chi-square test was performed to associate the type of with the parameters of age, gender, delivery type, and birth weight. All P values not more than 0.05 was regarded to be statistically significant.

RESULTS

Among 1245 neonates, 928 (74.5%) were delivered by normal vaginal delivery and 317(25.5%) by lower segment cesarean section (LSCS). 45(3.6 %) Mothers were below 20 years of age, 1180 (94.8%) were of 20-30 years of age and 20 (1.6%) above 30 years of age. Among newborns 646 (52%) were females and 599 (48%) were males. Most babies (79%) were born term babies, 228(18%) preterm and 32(3.1%) were born post-term. 918(73.7%) neonates had normal weight while 327(26.3%) had lower birth weight. Pigmentary dermatoses observed were Mongolian spots in 593 babies(47.6%), genital hyperpigmentation in 379 (30.4%) babies, acrocyanosis in 126 (10.1%), erythema toxicum neonatorum in 109(8.7%) ,Cafe au- lait macule in 3(0.24%) ,melanocytic nevus in 2(0.16%) and Nevus spilus in 1 (0.08%). Vascular birthmarks like Salmon patch were seen in 104 newborns (8.3%) and Port wine stain in 2 (0.16%). Genital hyperpigmentation was more common in post term male babies having $p < 0.001$. Erythema toxicum neonatorum was seen mainly among preterm male neonates having significant p value ($p < 0.001$).

Table 1. Demographic Characteristics of Neonates (n = 1245)

Variable	Category	Number (%)
Mode of Delivery	Normal vaginal delivery	928 (74.5%)
	LSCS	317 (25.5%)
Maternal Age	<20 years	45 (3.6%)
	20–30 years	1180 (94.8%)
	>30 years	20 (1.6%)
Gender of Neonates	Female	646 (52%)
	Male	599 (48%)
Gestational Age	Term	985 (79%)
	Preterm	228 (18%)
	Post-term	32 (3.1%)
Birth Weight	Normal weight	918 (73.7%)
	Low birth weight	327 (26.3%)

Table 2. Pattern of Pigmentary Dermatoses and Vascular Birthmarks in Neonates

Cutaneous Finding	Number of Neonates	Percentage (%)
Mongolian spots	593	47.6
Genital hyperpigmentation	379	30.4
Acrocyanosis	126	10.1
Erythema toxicum neonatorum	109	8.7
Salmon patch	104	8.3
Cafe-au-lait macule	3	0.24
Melanocytic nevus	2	0.16
Port wine stain	2	0.16
Nevus spilus	1	0.08

Table 3. Significant Associations of Neonatal Dermatoses

Dermatoses	Significant Association	P-value
Genital hyperpigmentation	More common in post-term male babies	<0.001
Erythema toxicum neonatorum	More common in preterm male neonates	<0.001



Photograph showing melanocytic Nevus in Neonate

DISCUSSION

Most neonatal dermatoses are physiological and are transient phenomena developing during the first 24 hrs of life. There have been very few studies analyzing neonatal pigmentary dermatoses. Among the pigmentary dermatoses Mongolian spots (MS) was the most common dermatoses identified in our study which was 47.6%. MS is a type of ceruloderma presenting as an ill-defined area of grey to blue black pigmentation, mostly present on the sacrococcygeal area and buttocks. These lesions gradually begin to fade by 1 year and are rarely visible beyond 6 years of age. The frequency of MS varies from 9.16% to 78.4% in various other studies.^{5,6,7,8,9} This variation could be due to marked racial differences in the prevalence of Mongolian spots. The second most common pigmentary condition seen in our study was genital hyperpigmentation (30.4%). It was more common in post term male babies ($p < 0.001$). Gudurpenu et al have reported much lesser incidence of genital hyperpigmentation to be 0.9% in their study.¹⁰ Similarly acrocyanosis was found to be 10.1% in present study while Gudurpenu et al reported it to be 0.5%. These differences in findings may be due to difference in fairer complexion in North Indian neonates. Erythema toxicum neonatorum was seen in 8.7% with preponderance in preterm male neonates ($p < 0.001$). The incidence of vascular birthmarks was similar to other Asian studies.^{10,11} Café au-lait macule was reported to be 0.24% in our study. While a Thai study reported café au lait in 30% newborns, a study from south India reported nil incidence of the entity.^{10,11} Shih et al reported Café au-lait macule in 0.4% of Taiwanese neonates.¹² Melanocytic nevus was observed in 0.16% of newborns in the present study while the incidence was 0.4% in Taiwanese and 0.5% in Thai babies.^{11,12} We found nevus spilus in 0.08% babies which was similar to other studies.^{11,12} Vascular birthmarks like Salmon patch were seen in 104 newborns (8.3%) and Port wine stain in 2 (0.16%). Vascular birthmarks may be associated with ocular, neurologic or skeletal defects or syndromic associations (Sturge-Weber syndromes, Klippel-Trenaunay syndromes etc.) which was fortunately not seen in this study.

CONCLUSION

Although majority of the neonatal cutaneous conditions in the study are benign and self-limiting, the correct diagnosis is important to enable prompt specific action if required. Therefore, such studies should be continued on a larger scale to make both pediatrician and dermatologist familiar with various types of birthmarks and offering treatment or cosmetic strategies.

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