

Original research article

A clinical study of neonatal dermatoses in a tertiary care hospital.

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Abstract

Skin is not only the largest organ system in the body but also an important defense system. A newborn's skin goes through many changes both in appearance and texture. Physiological and transient skin lesions are noticed during this neonatal period. Some of the physiological skin lesions in newborns which usually require observation and no treatment are vernix caseosa, physiological scaling of the newborn, harlequin color change etc. Our aim is to recognize and study the various patterns of skin lesions that occur in neonates. For our cross sectional hospital based study, 120 neonates were selected from the dermatology OPD and Neonatal Intensive Care Unit, pediatric and postnatal ward of our teaching hospital.. We found that there is an increase in physiological skin lesions like Mongolian spots(77.5%),Epstein pearls (50%),followed by vascular lesion like Salmon patch (25%),and transient skin lesion like erythema toxicum neonatorum (24.2%). Most of the physiological and transient skin lesions disappeared with time without any treatment. It is also important to differentiate between benign physiological and transient cutaneous lesions as compared to pathological conditions like infections.

Key words: skin lesions, neonates

Introduction

Skin is not only the largest organ system in the body but also an important defense system which contributes to 13% of body weight in newborns. Skin plays a role in maintaining temperature and water balance. Skin may systemically also absorb substances that may result in adverse effects.

When a baby is born, immature skin is exposed to environment and slowly it matures¹. A newborn's skin goes through many changes both in appearance and texture. Physiological and transient skin lesions are noticed during this neonatal period^{2,3}. Some of the physiological skin lesions in newborns which usually require observation and no treatment are vernix caseosa, physiological scaling of the newborn, harlequin color change, acral cyanosis, sucking blisters, cutis marmorata, sebaceous gland hyperplasia, Mongolian spots, Milia, Epstein pearls, occipital alopecia and miniature puberty⁴.

Merely looking at the skin one can assess the health status of the newborn. If the neonate's skin appears unusual than it create parental anxiety⁵. So it is important for the

pediatrician as well as for the dermatologist to recognize and differentiate these physiological states that can present in a normal neonate with an abnormal one⁶.

Our aim is to recognize and study the various patterns of skin lesions that occur in neonates.

Materials and Methods

This study was carried out in Department of Dermatology, Venereology and leprosy in a tertiary care hospital over a period of two years.

For our cross sectional hospital based study, 120 neonates were selected from the dermatology OPD and Neonatal Intensive Care Unit, pediatric and postnatal ward of our teaching hospital.

Type of study:

Cross sectional prospective study

Sample size:

120

Inclusion criteria:

All the neonates within first 4 weeks of life attending dermatology OPD and Neonatal Intensive Care Unit, pediatric and postnatal ward of our teaching hospital.

Exclusion criteria:

The parents who did not want to participate and those who disagreed to undergo relevant investigations of neonates were excluded.

A detailed history from parents were obtained regarding neonatal skin lesion, its onset and duration. The sex, birth weight and age at the time of examination were noted in each case. In most instances, diagnosis of disorder was based on clinical impression. A complete clinical examination in day light with accurate definition of morphology of skin lesions of all neonates along with following relevant investigations in selected cases were performed after obtaining consent from the parents. For diagnostic purpose, some neonates underwent investigations like Cytological smears of vesicle fluid (for diagnosis of erythema toxicum neonatorum and other vesiculobullous disorders), Pus culture and sensitivity, examination of scrapings, KOH preparation technique for fungal infection, Tzanck Smear technique and Gram stain for bacterial infection gram stain.

Statistical methods used : The observations pertaining to parameters under study among the newborn babies are expressed in percentage.

Results:

This study gives priority to the various neonatal dermatoses encountered in our institute. The detailed examination of a single newborn may reveal many dermatological conditions simultaneously, some may be either symptomatic or asymptomatic, some causing fetal distress, few causing unnecessary parental anguish. All these babies were examined according to proforma.

Out of 120 newborns of our study group, 64 (53.3%) were males, 56(46.7%) were females.

In our study as depicted in graph1, we found that maximum neonatal dermatoses were physiological in nature. There was an increase in vascular lesions and transient skin lesions in comparison to other neonatal dermatoses.

The table 1 and graph 1 of our study describes the percentage of various physiological skin lesions seen in newborns. Mongolian spots were seen in 93 (77.5%), followed by Epstein pearls 60(50%),

Milia 33(27.5), physiological scaling of newborn 17(14.2%), Vernix caseosa 4(3.3%), Physiological jaundice of newborn 2(1.7%), Harlequin color change 1(0.8%).

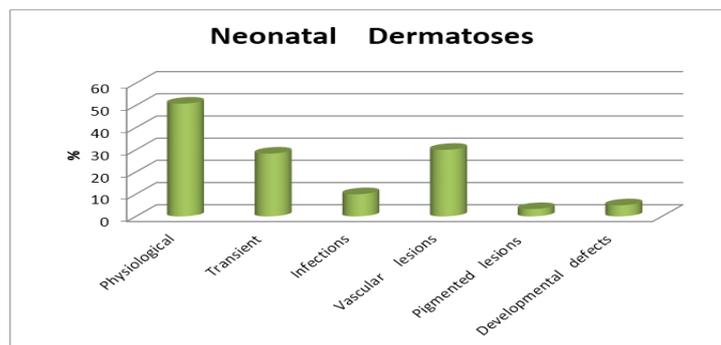
Transient skin lesions were erythema toxicum neonatorum 29 (24.2%), miliaria 12(10%), acne 3(2.5%), transient neonatal pustular melanosis 2 (1.7%).

The table 2 of our study shows pigmented lesions. The congenital melanocytic nevi were present in 2(1.7%), Café -au-lait macules 1(0.8%) and Nevus depigmentosus 1(0.8%).

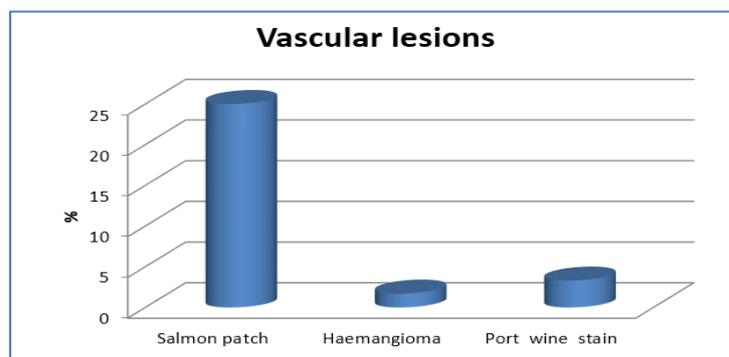
Graph 2 is depicting the vascular lesions in our study group. Salmon patch was seen in 30(25%), Port Wine stain 4(3.3%) and Haemangioma 2(1.7%)

Graph 3 is depicting about neonatal skin infections. Among infective lesions, fungal infections were 5(4.2%), bacterial 4(3.3%), and viral 3(2.5%).

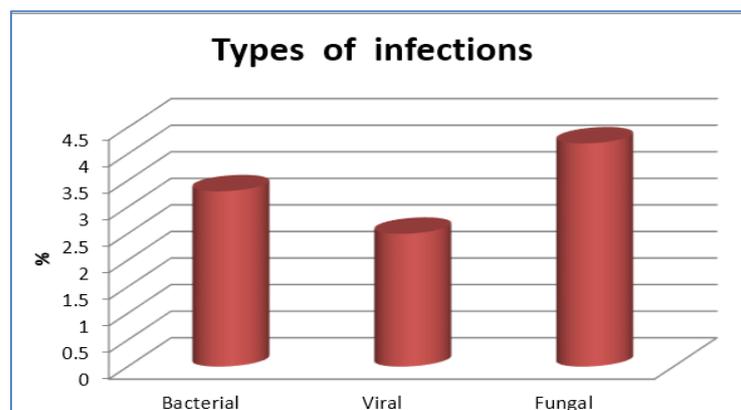
Among developmental defects found in our study, umbilical granuloma was seen in 2(1.7%), supernumerary mammary tissue 1(0.8%), accessory tragus 1(0.8%), spinal dysraphism 1(0.8%) and median raphe cysts 1(0.8%).



Graph1: showing analysis of Neonatal Dermatoses



Graph2: showing analysis of vascular lesions



Graph 3: showing analysis of types of infection

Table1: Percentage of physiological skin lesions.

S. No	Physiological skin lesions	Number	%
1	Vernix caseosa	4	3.3
2	Physiological scaling of newborn	17	14.2
3	Milia	33	27.5
4	Epstein pearls	60	50.0
5	Mongolian spots	93	77.5
6	Physiological jaundice of newborn	2	1.7
7	Harlequin color change	1	0.8

Table2: Percentage of pigmented lesions.

S. No	Pigmented Lesions	Number	%
1	Congenital melanocytic nevi	2	1.7
2	Café -au -lait macules	1	0.8
3	Nevus depigmentosus	1	0.8
	total	4	3.3

Discussion:

There is increasing number of studies conducted on neonatal dermatoses.

Some similar studies conducted in the past years on the prevalence of skin lesions were compared with our study results.⁷

In our study, 93(77.5%) newborns had the birthmark, similar to that of the study conducted by Dash et al⁸ Epstein pearls were seen in 60 (50%) neonates, with commonest site of location being midline of the hard palate in 50(83.30%) neonates. They occur commonly in 64-89% of normal neonates and are common in Caucasian infants.^{9,10}

Physiological scaling was seen in 17 (14.2%) neonates in the present study, It was seen in 17(24.6%) full-term neonates, compared to other studies.^{11,12} where desquamation was not seen in preterm neonates.

Vernix caseosa was seen in 4(3.3%) neonates in our study. It is commonly observed on first day of life. Vernix caseosa was seen in 7.7% neonates in the study conducted by Haveri F and Inamdar A.¹²

Milium is common skin rash in neonate seen with yellow or white small superficial cysts. It occurs in nearly half of healthy newborns and are typically present at birth, although their onset may be delayed in premature neonates¹³. In our study milia was seen in 33(27.5%). In previous studies milia have ranged from 1.4 to 93.1%^{14,15}

Physiological jaundice of newborn was seen in 2(1.7%) babies both of whom were preterm. The reported incidence of physiological jaundice of newborn varies from 3.5% to 20.6%.⁸ Nobbay et al¹⁶ reported 103 cases of jaundice amongst 500 cases with no reference to gestational age.

Harlequin color change was seen in 1(0.8%) baby which was preterm. This finding is consistent with the fact that premature infants are more commonly affected than full term infants

Conclusion:

A hospital based, cross-sectional, prospective study on skin lesions in 120 newborns was conducted. We found that there is an increase in physiological skin lesions like Mongolian spots(77.5%),Epstein pearls (50%),followed by vascular lesion like Salmon patch (25%),and transient skin lesion like erythema toxicum neonatorum (24.2%). Most of the physiological and transient skin lesions disappeared with time without any

treatment. It is also important to differentiate between benign physiological and transient cutaneous lesions as compared to pathological conditions like infections because certain infections like staphylococcal scalded skin syndrome and herpes simplex virus infection need to be detected early and require aggressive management to avoid further complications.

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