

## Original Research Article

# A clinical study of cutaneous manifestations in neonates

Ashok S. Hogade, Saranya D.\*

Department of DVL, M. R. Medical College, Kalaburagi, Karnataka, India

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**\*Correspondence:**

Dr. Saranya D,

E-mail: [dasarisaranya15@gmail.com](mailto:dasarisaranya15@gmail.com)

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### ABSTRACT

**Background:** Various cutaneous manifestations are common in the neonatal period. Transient and pathological neonatal dermatoses should be differentiated to avoid unnecessary treatment and to relieve parent's stress. The present study is being carried out to study the clinical pattern of cutaneous lesion during the neonatal period, to determine the frequency of various dermatoses i.e. physiological and pathological lesions in neonate along with appropriate management of cases.

**Methods:** A total of 100 neonates from labour rooms and pediatric nursery of Basaveshwara general hospital, Kalaburagi were evaluated for cutaneous manifestations. All the relevant data regarding history, clinical examination and investigations were recorded and analyzed.

**Results:** Of the 100 neonates, 56 (56%) were males and 44 (44%) were females, 72 (72%) were full term, 23 (23%) were pre-term and 5% were post term. Of these 78% newborns were born to multigravidae mothers, while 24% newborns born of consanguineous marriage had cutaneous lesions. The majority of newborns 54% were born through normal delivery. The largest number of babies with cutaneous lesions (72%) was seen in newborns of mothers in the age group of 20-29 years. The most common dermatoses were physiological scaling (18%) and Mongolian spots (20%) followed by milia (13%), miliaria (14%).

**Conclusions:** The present study helps to understand the type and distribution of cutaneous lesions presenting in the early neonatal period in newborns. Majority of skin lesions were transient and did not need any medical treatment. Counselling the parents helped alleviate their significant psychological stress as well as play a role in creating awareness in the community and benefit the people at large.

**Keywords:** Neonate, Cutaneous lesions, Mongolian spot, Miliria

### INTRODUCTION

The new born or neonatal period is the first 4 weeks of extrauterine life. Skin disorders are commonly seen in the neonatal period, most of which are transient and limited to the first days or weeks of life. Neonatal skin is thinner, has weaker intercellular attachments, produces lesser sweat and sebum and is less effective in detoxifying and deactivating compounds that are applied on it.

The neonatal skin changes show a wide geographic and ethnic variation. Some skin lesions are common in darker

skin races. It is important to know the pattern of dermatoses prevalent among Indian children at the neonatal period.

Hence, it is essential to know the various lesions with regard to their clinical features and etiopathogenesis in order to arrive at a suitable diagnosis and to plan the mode of management whenever it is required. Correct diagnosis and counselling the parents may relieve the anxiety and mental trauma. It also avoids unnecessary investigations and medications.

The available literature on neonatal dermatoses in our country is meager. Only a few reports are available on cutaneous lesions in the new borns. The present study could be useful in understanding the types and distribution of cutaneous lesions and their interpretation would benefit the community. The prevalence of dermatoses in the newborn varies between 79.4% and 100%.<sup>1,3</sup>

Dermatoses of the newborn can be classified as:<sup>2</sup>

- Transient skin disorders
- Congenital disorders-birthmarks and genodermatoses.
- Acquired skin disorders
- Iatrogenic skin lesions.

## METHODS

A observational study was conducted in the department of dermatology, Basaveshwara hospital, Kalaburagi from August 2015 to September 2016. Cases were enrolled from labour room, pediatric ward and dermatology outpatient department. A total of 100 neonates up to 1 month of age were included in study.

All neonates were examined which included physical examination, systemic and dermatological examination and all details were recorded. Relevant investigations were done.

All neonates within the first 4 weeks of life irrespective of gestational age, sex, and mode of delivery were included in the study and exclusion criteria were neonates with structural anomalies.

Neonates kept in neonatal intensive care unit, as the chances of infection and sepsis are more.

## RESULTS

Of the 100 neonates, 56 (56%) were males and 44 (44%) were females. 76 (76%) were full term, 24 (24%) were pre-term. Considering gestational age of neonates, the number of preterm cases was 23, whereas the term cases were 72 in number and 5 cases of post term. The average birth weight between 2.5–3kgs was seen in 64% while low birth weight was observed in 36 % of cases.

The percentage of consanguineous marriage and non-consanguineous marriage in the parents of neonates were seen as 24% and 76% respectively. The modes of delivery of the cases were 55 cases of normal vaginal whereas 42 % were caesarean and 4% were delivered by forceps or suction.

The commonest dermatoses found in our study were pigmentary lesions that were seen in our study amounting to 20% of cases and the location being the lumbosacral area i.e. Mongolian spots in new born. The next

commonest condition was papulosquamous type i.e lamellar desquamation of newborn amounting to 18 % of the cases.

The next common dermatoses are miliaria amounting to 14% of the cases most commonly seen over back and face. The trunk was the most common site (80%) involvement of Erythema toxicum neonatorum amounting of the 14 cases were observed in our study

**Table 1: Showing age distribution of patients.**

S. no.	Gestational age	No. of cases	Percentage (%)
1.	Full Term	72	72
2.	Pre term	23	23
3.	Post Term	5	5

**Table 2: Various dermatoses observed in this study.**

S. no.	Diagnosis	No of cases	Percentage (%)
1.	Mongolian spots	20	20
2.	Physiological scaling	18	18
3.	Milia	13	13
4.	Interrigo	2	2
5.	Miliaria rubra	14	14
6.	Congenital melanocytic naevi	5	5
7.	Hemangiomas	6	6
8.	Erythema toxicum neonatorum	14	14
9.	Aplasia cutis	1	1
10.	Piebaldism	1	1
11.	Epidermolysis bullosa	1	1
12.	Others	5	5

## DISCUSSION

Skin manifestations are common during the neonatal period. Several studies about the prevalence of neonatal dermatoses have been documented in various countries and racial groups. In our study all live births born in the Obstetrics and gynaecology ward were observed for the physiological conditions as well as birthmarks.

Out of 100 neonates in the study, 56 were males and 44 were female which correlates well with a study comparable to Dash et al where the incidence of males was seen.<sup>4</sup> In a study by Zagne et al there was a female preponderance.<sup>5</sup>

Most common dermatoses were noted was Mongolian spots about 20% of neonates. A similar incidence is seen in a study done by Gokdemir et al.<sup>6</sup> However the incidence of Mongolian spots in our study is quite low in comparison with other study observed in 60.2% by 89% by Dash et al & Sachdeva et al.<sup>4,7</sup>

The colour varies from light blue to bluish green. Size was variable ranging from 8cm to 20cm. There was no relation to maternal illness or mode of delivery similar to a study by Sachdeva et al.<sup>7</sup>

Physiological desquamation is the 2<sup>nd</sup> common dermatological findings observed in our study. There were about 18 cases noted. It was present at birth. The incidence of superficial cutaneous desquamation resembles closely those seen in studies by Baruah et al.<sup>3</sup> Scales were easily removable, fine and thin, on a non-erythematous base. Sites involved were trunk, extremities, head and neck especially the forehead. No sex predilection was noted.

The overall frequency of milia in this study is 13%. The incidence of milia is similar to the incidence observed by Dash et al<sup>4</sup> in 13%. The frequency of milia has varied considerably in different studies, 94.8 % by Mishra et al and 44.2% in a study by Nobby et al.<sup>8,10</sup> The most common sites involved were chin, cheeks and forehead. This variation of milia could be due to environmental influence.

The overall frequency of miliaria rubra observed in this study was 14%. However, Sachdeva et al reported that miliaria rubra was observed in (20.6%).<sup>7</sup> The difference in frequencies can be explained by differences of racial characteristics and should be attributed more to the difference in climate of the places where the studies were conducted.

In the present study 14% of neonates had erythema toxicum neonatorum. This coincides with the study by Gokdemir et al (13.9%).<sup>6</sup> However higher incidence was reported in 34.8% by Baruah et al, 27% by Dash et al and 21% by Kulkarni et al in their studies.<sup>3,4,6</sup> Majority of the babies had onset of lesions from 2<sup>nd</sup> or 3<sup>rd</sup> day of life. The sites involved were cheeks, upper trunk and thighs. Palms and soles were always spared. In a study by Sachdeva et al, a higher incidence of ETN was observed in multipara and in babies with more birth weight however in our study there was an equal incidence of ETN in both the two variables.<sup>7</sup>

In our study, congenital melanocytic nevus, black to brown flat was found in 5%. This correlates well with the incidence of a study done by Dash et al and Gokdemir et al.<sup>4,6</sup> Melanocytic nevus involving the trunk and back were seen. The prevalence of congenital melanocytic nevi (CMN) among newborns ranges between 0.2 and 6% in the worldwide literature.

Hemangiomas were seen in 6% cases typically over face. Which were present at birth. Hemangiomas occur in 1.1 to 2.6% of the neonates.

We found one case of aplasia cutis congenita, comparable to an earlier study from Pondicherry.<sup>3</sup> The baby had a single atrophic patch on the scalp with no secondary

changes. Approximately 0.03 percent of newborns are afflicted with aplasia cutis congenita, or congenital absence of skin. The lesion was present at birth and erythematous. Lesion may be ulcerated, bullous or atrophic in appearance. It is solitary in 70 percent of cases. The most common location is the scalp (near the vertex) although these lesions may occur anywhere on the body.



**Figure 1: Aplasia cutis on scalp in neonate.**

## CONCLUSION

We conclude that neonatal lesion is commonly seen and staff attending to the neonate should have knowledge of the various dermatoses. Most of the skin lesions in new born are self-limiting requiring no treatment. Correct diagnosis and counseling the parents may relieve the anxiety and mental trauma.

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## REFERENCES

1. Pereira LB, Gontijo B, Silva CM. Dermatoses neonatais. *An Bras Dermatol.* 2001;76:505-37.
2. Baruah MC, Bhat V, Bhargava R, Garg RB, Kumar V. Prevalence of dermatoses in the neonates in Pondicherry. *Indian J Dermatol Venereol Leprol.* 1991;57:25-8.
3. Parikh DA. Neonatal skin disorders. In: Valia RG, Valia AR, editors. *IADVL Textbook of dermatology.* 3<sup>rd</sup> ed. Mumbai: Bhalani Publishing House; 2008.
4. Dash K, Grover S, Rashakrishnan S, Vani M. Clinicoepidemiological study of cutaneous manifestations in the neonate. *Indian J Dermatol Venereol Leprol.* 2000;66:26-8.
5. Zagne V, Fernandes NC. Dermatoses in the first 72 h of life: A clinical and statistical survey. *Indian J Dermatol Venereol Leprol.* 2011;77:470-6.

6. Gokdemir G, Erdogan HK, Koslu A, Baksu B. Cutaneous lesion in Turkish Neonates born in a teaching hospital. *Indian J Dermatol Venereol Leprol.* 2009;75:638-41.
7. Sachdeva M, Kuar S, Nagpal M, Dewan SP. Cutaneous lesions in new born. *Indian J Dermatol Venereol Leprol.* 2002;68:334-7.
8. Mishra PC, Mathur GP, Mathur S, Singh YD, Sharma D, Gupta AK. Normal anatomic variants in the new born. *Indian Pediatr.* 1985;22:649-52.
9. Hurwitz S. *Clinical Pediatric Dermatology.* In: A Textbook of Skin Disorders of Childhood and Adolescence. Volume 7. 2nd edn. Philadelphia: Saunders; 1993: 15.
10. Nobby B, Chakraborty N. Cutaneous manifestations in the new born. *Indian J Dermatol Venereol Leprol.* 1991;58:69-72.

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