

Study of Dermatological Conditions in Sick Newborn – A Hospital Based Study

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Abstract

Background: Although skin lesions are fairly common during the newborn period and are often a cause of concern for the parents, majority of them are innocuous. Early identification of potentially harmful lesions is essential for proper care of the newborn.

Materials and methods: In this single-contact prospective study, a total of 149 neonates attending paediatric department were included. Their data including birth history and relevant maternal history were recorded in a Performa. Photographic records were maintained.

Results: Among the 149 neonates the various causes of admission were hypoglycaemia, pneumonia, meconium aspiration syndrome, transient tachypnea of newborn, birth asphyxia, seizures and meningitis. The various lesions observed were erythema toxicum neonatorum (ETN) (18%), Mongolian spot (9%), yellow discolouration (9%), drug rash (7%), physiological erythema (7%), milia (7%), Epstein's pearls (3%), vernix caseosa (7%) and physiological scaling of the newborn (5%).

Conclusion : The study of neonatal skin helps to differentiate benign transient lesions from pathological conditions. Correct diagnosis and counselling the parents may relieve the anxiety whereas early identification of

more serious skin conditions may be treated timely.

Introduction

Most neonatal dermatoses are fortunately transient and last only first few days of life without any serious outcomes. The reason lies in morphological and physiological nature of a newborn skin. There are various significant differences of a neonatal skin from an adult like a higher skin surface area to weight ratio; weaker connections between the dermis and the epidermis; higher permeability of the stratum corneum, lesser active glands and lesser melanin.

In newborns and small infants, the pH of the skin surface is higher and the free fatty acid content is less than that in adult skin^{1,2,3}.

Various parameters influence patterns of cutaneous changes in neonate e.g. heredity, race, gestational age, and maternal health in addition to other external factors such as hygiene, socioeconomic status, customs, mode of delivery, etc.

Neonatal dermatoses can be classified as follows^{4, 5, 6}:
Transient skin disorders.

1. Congenital disorders - birthmarks and genodermatoses.
2. Acquired skin disorders specific to the neonatal period.

3. Iatrogenic dermatologic complications.

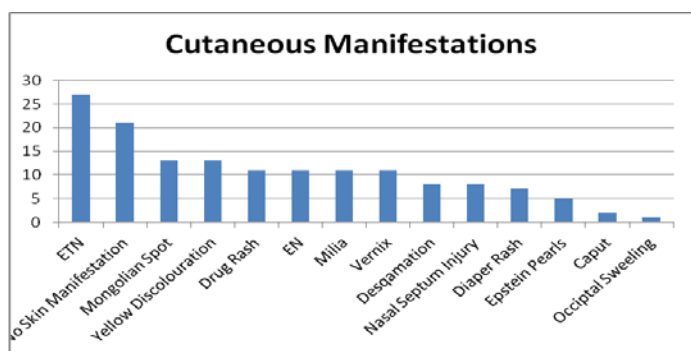
There are very few studies on newborn dermatoses of hospitalised neonates.⁷

Materials and methods

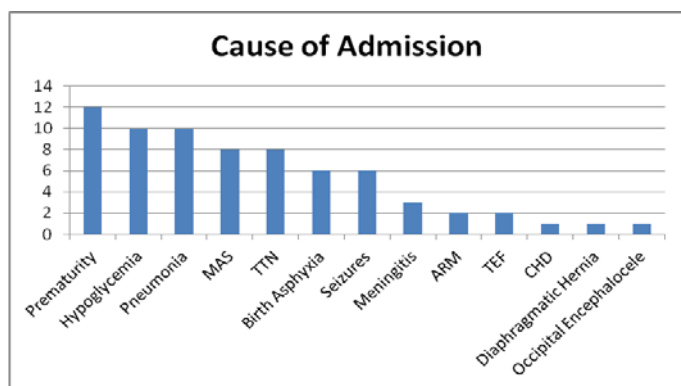
In this single-contact prospective study, a total of 149 neonates attending paediatric department were included. Their data including birth history and relevant maternal history were recorded in a Proforma. Photographic records were maintained.

Results

Among the 149 neonates the various causes of admission were hypoglycaemia, pneumonia, meconium aspiration syndrome, transient tachypnea of newborn, birth asphyxia, seizures and meningitis.



Graph 1: showing prevalence and type of dermatoses



Graph 2 : showing common causes of admission

56% were males and 44% were females. Twenty-nine percent were preterm and rest 71% were term. Fifty nine percent were delivered vaginally and 41% were delivered by caesarean section.

Prevalence and type of dermatoses

82 % of the neonates admitted for various indications had one or other cutaneous manifestations. The transient skin disorders that required no treatment were found to be the most common. The various lesions observed were erythema toxicum neonatorum (ETN) (18%), Mongolian spot (9%), yellow discolouration (9%), drug rash (7%), physiological erythema (7%), milia (7%), Epstein's pearls (3%), vernix caseosa (7%) and physiological scaling of the newborn (5%).

Discussion

This study presents an analysis on the basis of observations made on 149 sick neonates for skin disorders. Erythema toxicum neonatorum is a benign self-limited condition occurring in the first week of life. It was the commonest cutaneous manifestation observed in 18% of the neonates examined in the present study. Physiological scaling of the newborn was observed in 5% of the neonates in our study. Some studies have reported a higher incidence (40-80%)^{3,8}

Nasal septal injury in the form of erosion was exclusively observed in the neonates who were administered continuous positive air pressure in the NICU, with an incidence of 5%, in the present study.

Conclusion

Benign neonatal skin lesions need to be differentiated from more serious conditions. The identification of normal phenomena and their differentiation from more significant cutaneous disorders of the newborn are critical for the general physician, obstetrician and paediatrician, as well as for the parents.

References

1.Parikh DA. Neonatal skin disorders. In: Valia RG, Valia AR, editors. IADVL textbook of dermatology. 3rd ed. Bombay: Bhalani Publishing House; 2001; 1 :160-170

2. Sarkar R. Care of the skin. In: Gupta P, editor. *Essential pediatric nursing*. New Delhi: CBS Publishers and Distributors 2007; 217-226.

3. Zagne V, Fernandes NC. Dermatoses in the first 72 h of life: a clinical and statistical survey. *Indian J Dermatol Venereol Leprol* 2011; **77** :470-476

4. Boccardi D, Menni S, Ferraroni M, Stival G, Bernardo L, La Vecchia C, Decarli A. Birthmarks and transient skin lesions in newborns and their relationship to maternal factors: a preliminary report from northern Italy. *Dermatology*. 2007; **215** : 53-58

5. Nanda A, Kaur S, Bhakoo ON, Dhall K. Survey of cutaneous lesions in Indian newborns. *Pediatr Dermatol* 1989; **6** :39-42.

6. Sachdeva M, Kaur S, Nagpal M, Dewan SP. Cutaneous lesions in new born. *Indian J Dermatol Venereol Leprol* 2002; **68** :334-337

7. Nobby B, Chakrabrty N. Cutaneous manifestations in the new born. *Indian J Dermatol Venereol Leprol* 1992; **58** :69-72

8. Ferahbas A, Utas S, Akcakus M, Gunes T, Mistik S. Prevalence of cutaneous findings in hospitalized neonates: a prospective observational study. *Pediatr Dermatol* 2009; **26** :139-142



Figure 1 : Drug rash



Figure 2 : Erythema toxicum neonatorum



Figure 3 Physiological scaling of the new born