

Analysis of Prevalence of Cutaneous Lesions Among Neonates: An Institutional Based Study

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ABSTRACT

Background: Rashes are extremely common in newborns. During the first four weeks of life, the newborn period includes various dermatologic skin problems. Hence; the present study was planned for assessing the prevalence of cutaneous lesions among neonates.

Materials & Methods: A total of 200 neonates were analysed during the study period. Complete demographic and clinical details of mother of all the neonates were obtained. All necessary clinical and medical details of the mothers were also obtained. Thorough examination of all the neonates was done in broad day light. Presence of different types of cutaneous lesion was recorded. The diagnosis of the cutaneous lesion was made on the basis of clinical presentation.

Results: The overall prevalence of cutaneous lesions was 12 percent. Among these 24 cutaneous lesions, 14 were physiologic in nature while the remaining 10 were pathologic in nature. The common pathologic lesions encountered in the present study were napkin dermatitis and related disorders, Seborrheic dermatitis and Monilial dermatitis. The common physiologic lesions encountered in the present study were benign transient lesion of new born, transient vascular phenomenon, papulo-pustular dermatosis, neonatal acne and

Milia. In the present study, non- significant results were obtained while assessing the prevalence of different cutaneous lesions among subjects divided on the basis of gender.

Conclusion: Neonates are affected by both pathologic and physiologic cutaneous lesions, most of which are commonly recognized by dermatologists.

Key words: Cutaneous, Neonates.

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INTRODUCTION

Neonatal period refers to the first 4 weeks of extra-uterine life. The skin and appendages of the new-born present different features when compared to adults.¹ There are many physiologic and pathologic conditions specific to neonatal skin.² Rashes are extremely common in newborns. During the first four weeks of life, the newborn period includes various dermatologic skin problems. Most of them are innocent and transient. However, serious infectious, congenital skin diseases and sometimes malign tumors should be taken into consideration.^{3,4} Neonatal skin lesions are common. Differentiation of the nonsignificant conditions from more serious clinical entities is important.⁵

Hence; under the light of above mentioned data, the present study was planned for assessing the prevalence of cutaneous lesions among neonates.

MATERIALS & METHODS

The present study was planned in the Department of Dermatology, K.D. Medical College Hospital and Research Center, Mathura, Uttar Pradesh (India) and it included assessment of prevalence of cutaneous lesions among neonates.

Ethical approval was obtained in written from the ethical committee of the institution before the starting of the study. A total of 200 neonates were analysed during the study period. Complete demographic and clinical details of mother of all the neonates were obtained.

All necessary clinical and medical details of the mothers were also obtained. Thorough examination of all the neonates was done in broad day light. Presence of different types of cutaneous lesion was recorded.

Following parameters of the neonates were recorded:

- Morphology of skin lesion,
- Age (at time of examination) and Gender,
- Birth weight,

The diagnosis of the cutaneous lesion was made on the basis of clinical presentation. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software. Chi- square test was used for assessment of level of significance.

Table 1: Prevalence of cutaneous lesions

Parameter	Number of patients	Percentage
Prevalence of cutaneous lesions	24	12

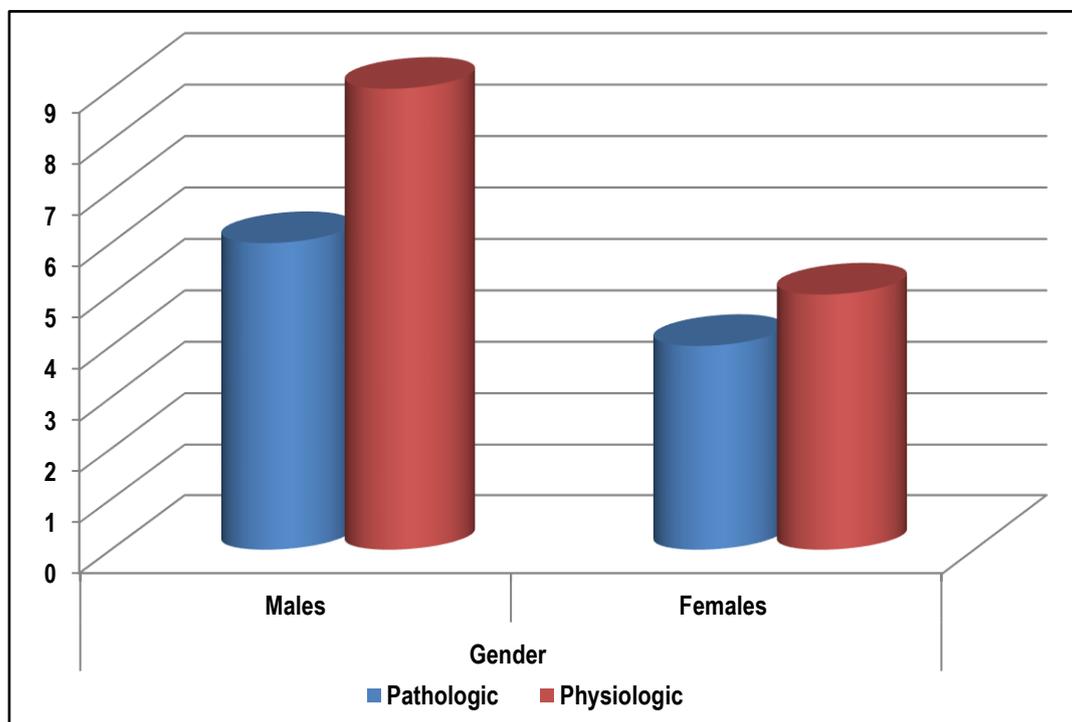
Table 2: Correlation of different cutaneous lesions among subjects divided on the basis of gender

Cutaneous lesions	Gender		Total	Chi- square value	p- value
	Males	Females			
Pathologic	6	4	10	1.48	0.44
Physiologic	9	5	14		
Total	15	9	24		

Table 3: Distribution of different pathologic and physiologic cutaneous lesions

Cutaneous lesion	Number of patients	
Pathologic	Napkin dermatitis and related disorders	4
	Seborrheic dermatitis	3
	Monilial dermatitis	3
Physiologic	Benign transient lesion of new born	6
	Transient vascular phenomenon	3
	Papulo-pustular dermatosis	2
	Neonatal acne	2
	Milia	1

Graph 1: Prevalence of different cutaneous lesions among subjects divided on the basis of gender



RESULTS

In the present study, a total of 200 neonates were analysed. The cutaneous lesions were present in 24 patients. The overall prevalence of cutaneous lesions was 12 percent. Among these 24 cutaneous lesions, 14 were physiologic in nature while the remaining 10 were pathologic in nature. Among the neonates with physiologic lesions, 9 were males while the remaining 5 were females. Among the neonates with pathologic lesions, 6 were males while the remaining 4 were females. The common pathologic lesions encountered in the present study were napkin dermatitis and related disorders, Seborrheic dermatitis and Monilial dermatitis. The common physiologic lesions encountered in the present study were benign transient lesion of new born, transient vascular phenomenon, papulo-pustular dermatosis, neonatal acne and Milia. In the present study, non- significant results were obtained while assessing the prevalence of different cutaneous lesions among subjects divided on the basis of gender.

DISCUSSION

Infants with unusual presentations or signs of systemic illness should be evaluated for Candida, viral, and bacterial infections. Milia and miliaria result from immaturity of skin structures. Nearly all of these skin rashes are a serious concern for parents and may result in visits to the physician or questions during routine newborn examinations.⁶⁻⁸

In the present study, a total of 200 neonates were analysed. The cutaneous lesions were present in 24 patients. The overall prevalence of cutaneous lesions was 12 percent. Among these 24 cutaneous lesions, 14 were physiologic in nature while the remaining 10 were pathologic in nature. The appreciation of normal phenomena and their differentiation from the more significant cutaneous disorders of the neonate is critical. The incidence of physiological skin changes in the newborns in this study group is similar to the findings of other authors.⁹⁻¹²

In the present study, among the neonates with physiologic lesions, 9 were males while the remaining 5 were females. Among the neonates with pathologic lesions, 6 were males while the remaining 4 were females. Reddy HB et al studied the pattern of cutaneous manifestations in new-borns <72 hours of birth. Neonates were examined within 24 hours of birth and daily for skin lesions for 72 hours. Skin lesions were categorised into physiological, transient eruptions, due to infections, congenital anomalies and miscellaneous. Transient skin lesions were frequent (n=451 in 198 patients, Mean±SD 2.30±0.76) followed by physiological conditions (n=284, Mean±SD 1.44±0.82). Infectious, developmental, iatrogenic and miscellaneous lesions were less frequent (mean±SD lesions 0.015±0.12, 0.0115±0.32, 0.015±0.12, and 0.035±0.18, respectively). Statistically significant (p<0.001) relationship was noted between gestational age and number of lesions; more number of full term babies had lesions, while number of lesions (>6) were more in preterm babies. All lesions occurred within 24 hours of birth except erythema toxicum neonatorum (n=124) wherein 80 were seen on day 1, and 43 on day 2. They confirmed the variation in cutaneous lesions and their time of onset in neonates.¹²

In the present study, the common pathologic lesions encountered were napkin dermatitis and related disorders, Seborrheic dermatitis and Monilial dermatitis. The common physiologic lesions encountered in the present study were benign transient

lesion of new born, transient vascular phenomenon, papulo-pustular dermatosis, neonatal acne and Milia. The thickness of newborn skin is 40% to 60% to that of adult skin. It has weaker intercellular attachments and produces lesser amount of sweat. A host of manifestations varying from physiological Mongolian spot and transient eruption (Erythema toxicum neonatorum) to grossly pathological Neonatal lupus erythematosus are seen in the skin of neonates. Majority of them, the neonatal cutaneous lesions are physiological and requires no therapy. However, these not only cause concern to the parents, but also to the physicians who are unfamiliar to these skin changes in newborn. It is necessary to differentiate between benign and clinically significant skin lesions in newborn.^{13,14}

In the present study, non- significant results were obtained while assessing the prevalence of different cutaneous lesions among subjects divided on the basis of gender. Nobby B analysed five hundred unselected newborn babies delivered at the department of obstetrics and Gynaecology, command hospital, Air force, Bangalore from ,the first to the fifth day after birth and details of all cutaneous manifestations, both physiological and pathological were recorded. Of the 500 newborns studied, 262 (52.4 percent) were males and 238 (47.6 percent) were females. Physiological skin changes were observed in all and pathological skin changes in 206 (41.2 percent). The incidence of such changes being similar in both sexes except for the physiological change termed miniature puberty.¹⁵

CONCLUSION

From the above results it can be concluded that neonates are affected by both pathologic and physiologic cutaneous lesions, most of which are commonly recognized by dermatologists. Therefore, all dermatologists should be aware of neonatal dermatoses and their patterns of presentation.

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