ORIGINAL ARTICLE

Incidence of Skin Lesions in Newborns

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ABSTRACT

Background: The Neonatal skin lesions are a common in the neonates. Most are self limiting, other need follow-up and treatment. Differentiation simple lesion from those associated with underlying morbidity is essential.

Aim: To study skin disorders in neonates within the first 48 hours of life and assess their eligibility either for discharge or to admit to the nursery.

Methods: During year 2001, careful daily inspection of the new born who were delivered 24 - 48 hours. Full clinical examinations in search for any morbid signs and symptoms in association with skin disorder were done. A total of 500 patients with different skin lesion were retrieved and included in this study for analysis.

MATERIAL AND METHODS

Prospective study involving 500 neonates whom were presented to us at Mayo Hospital, Lahore during a 1 year interval. All neonates were 24 to 48 hours of age. Diagnosis of the dermatological lesions were done by clinical impression except, in doubtful cases dermatologists were consulted to clarify the diagnosis.

RESULTS

500 neonates were examined. 256 girls, 235 boys. 378 were born at term, 222 were premature healthy neonates but their weights were above 2.7kg Out of the five hundred patients included 397 were normal vaginal delivery and 113 born by caesarian sections. At least one skin lesion were found in 476 patients and 387 had 2 skin lesions (mostly Erythema toxicum and Epstien pearls. Five hundred newborns were examined, 235 boys and 256. Of these, 378 infants (were born at term, 222) were preterm. 113 (36.8%) were born by cesarean section and 397 were vaginally delivered. At least one skin lesion was found in 476 and 387 had more than one lesion.

Epstein pearls were more frequent in term neonates. They were located on the palate in 415 neonates (83%), Mongolian spots was seen in 390 (78%), erythema toxicum was seen in 340 neonates (68%), followed by milia in 285(57%), Sebaceous hyperplasia was observed in 255 neonates (51%), 20% were boys and 31% were girls. More in term than preterm neonates. Miliaria followed in frequency in 245 (49%) neonates with almost equal frequency in both sexes (boys 27%, girls 22%). Salmon patches were seen in 160 (32%) neonates with more frequency in Female term neonates (21% in girls, 11% in boys). Desquamation also showed in 105 neonates with the following percentage: girls 5%, boys 16%. Congenital melanocytic naevus was seen in only 15 neonates in the trunk in 9 neonates, 3 on the upper lip, and in 3 on the lower leg. All congenital nevi were less than 2cm in diameter. Collodion membrane was found in 2 term females.

Distribution of skin lesions by sex:

Frequency of skin lesions	Total
Epstein pearls	415
Mongolian spots	390
Erythema toxicum	340
Milia	285
Sebaceous hyperplasia	255
Miliaria	245
Salmon patch	160
Desquamation	105
Congenital melanocytic naevus	15
Colloidon baby	2

Percentage of frequency according to sex.

	Girls	Boys	Overall %age
Epstein pearls	42%	41%	83%
Mangolian spots	33%	45%	78%
Erythema toxicum	35%	33%	68%
Milia	37%	20%	57%
Sebaceous hyperplasia	31%	20%	51%
Miliaria	22%	27%	49%
Salmon patch	21%	11%	32%
Desquamation	5%	16%	21%
Congenital melanocytic naevus	1%	2%	3%
Colloidon baby	004%	0%	004%

Study characteristics of included neonates

neonates below 48 hours after the delivery
Not below 2.75kg
Above 36 weeks gestation
No associated structural abnormality or sex ambiguity
Not admitted at the neonatal ward

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Children with 2 skin lesions

	Neonates
Epstien pearls and Erythema toxicum	187
Mongolian spots and Sebaceous hyperplasia	62
Milia and sebaceous hyperplasia	56
Salmon patch and Erythema toxicum	46
Desquamation and Mongolian spots	34

DISCUSSION

Benign dermatoses in new-borns must be distinguished from more serious disorders with cutaneous manifestations, and recognition of these dermatoses allows the physician to proceed appropriately, reassure the parents and initiate further evaluation or treatment as necessary[1].

In our study we found that Epstien pearls, Erythema Toxicum, mongolian spots, milia are the skin lesions which are commonly seen in the neonates included in this study. While in the Iranians study[2], which had almost same findings except Erythema Toxicum as the lowest frequency of about 11%.

Japanese study[3] was near to our study with 40% frequency of ET, Indian study reported 20%[4], while Piagent et al (1991) [5] and the Finnish study[6] reported Erythema Toxicum frequency 34% and 70%. The Finnish study rate was the nearest frequency rate to our study.

Mallory 1991[7] conducted a survey in USA and found that each and every neonate has one form of skin lesion early after delivery. He found that the commonest lesions were as follows: desquamation, Epstien pearls, sebaceous hyperplasia, milia, toxic erythema, salmon patch, hypertrichosis and the Mongolian spots. This result to a greater extent resembles our study except, for the Desqumation that is low in our study.

Erythema Toxicum neonatorum is a benign rash of unknown aetiology, present to various degrees in most term newborns and characterised by an accumulation of eosinophils in dermal lesions[8]. In the prevalence survey conducted in Australia by Rivers et al 1990[9] their results were as follows, desquamation (65%), followed by Epstein pearls (56%), sebaceous hyperplasia (48%), milia (36%), but their results regarding Erythema toxicum was (34%) and salmon patch (32%). Their results resemble to great extent those of the American survey. While in our study Epstein pearls, mongolin spots and E. Toxicum were the commonest skin lesion seen.

This is explained to greater extent the differences in race and colour between Orientals and Americans. A similar result seen at the French study[10], which were conducted at the maternity ward of Brest University hospital. Erythema toxicum was the commonest neonatal skin lesion with a rate of 103 /142, they suggested that E toxicum is more common in the Caucasian population than coloured population. In contrast, the Indian study[4] scored the lowest rate for frequency of Erythema toxicum which is (20%), which may give a clue that a racial factor may came into play.

An interesting study, which adopted a comparative approach between Arabs and Jews in Israel, conducted by Kahana et al (1995) [11] found that Arabs had commoner melanocytic brown lesions (Mongolian spots, congenital naevi, café au lait spots than Jews coming from European ancestry, but, Jews coming from Asia and African decent had almost equal frequency of these melanocytic brown lesions, on the other hand, Arab female neonates had high frequency of salmon patches and port vine lesions than Arab males. Which may suggest sex differences between the same race to certain neonatal skin lesions. Our study, which included neonates coming from Asian decent, had similar results with high frequency of mongolian spots in boys (45%) compared with girls (33%).

In Conclusion of this cohort descriptional study, findings are Erythema toxicum, Mongolian spots, Epstien pearls, were the commonest skin disorders in our neonates which were studied over the 6 months period.

This is slightly different from the universal results, in particular to Erythema toxicum which was the commonest skin lesion in Caucasian population. Neonates who had more than one skin lesion were 387 (77%) and mainly had E.toxicum and Epstien pearls.

I found strong association between Epstien pearls and Erythema toxicum in neonates who have 2 skin lesions associated together.

CONCLUSION

Pakistani neonates are almost having same frequency as all races except for E.toxicum that is more frequent in Caucasians than Orientals.

REFERENCES

1. Treadwell PA, 1997. Dermatosis in newborns. Am Fam Physician1997; 56(2): 443 –50.
2. Moosavi Z, HosseinniT. One-year survey of cutaneous lesions in 1000 consecutive Iranian newborns, Pediatrics Dermatology 2006; 23(1): 61–63.
3. Hidano A, Parwoko R, Jitsukawa K. Changes in Japanese neonates. Paediatr Dermatol 1986; 3:140 – 144.

4. Kaur N, Bhakoo ON, et al. Survey of coetaneous lesions in Indian newborns, Paediatr Dermatol 1989; 6:39 – 42.
5. Prigent F, Vige P, Martinemt C. Coetaneous lesions during the first week of life in 306 consecutive newborns infants, Ann Dermatol Venereol 1999; 118:697 – 699.
6. Karvonen SL, Vaaljalaht P, Marenk M et al. Birth marks in 4346 Finnish newborns, Acta Dermal Venereol 1992; 72:55 – 57.
7. Mallory SB. Neonatal skin disorder, Paediatr Clin North Am 1991; 38(4); 745 – 61.
8. Rivers JK, Frederiksen PC, Dibdin C. Prevalence survey in the Australian neonates, J AM ACAD Dermatol 1990; 23(1): 77– 81.
9. Plantin P, Delaire P, Gauanon J, Boog G, Guillet G. Benign cutaneous lesions within first 48 hours of life. Ann Dermatol Venearol 1990;117 (3): 181-4.
10. Kahana M, Feldman M, Abudi Z, Yurman S. The incidence of birthmarks in Israeli neonates, Int J Dermatol 1995; 34(10):704 6.