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Medical Science

KEYWORDS :

Study of Dermatological Lesions in Indian Neonates

Asvin Panchal	3rd year resident pediatric dept.shardaben hospital,NHL medical college ahmedabad.
Snehal Patel	Professor & Head of Unit Dept. of Pediatrics, Smt.SCL Gen.Hospital, N.H.L. Medical College,A'bad

ABSTRACT

The science of dermatology deals with skin, hair, nails,subcutaneous tissue,sweat glands,sebaceous glands and the apocrine glands.Here is an amalgam of two faculties of medical science,pediatrics and dermatology. Pediatric skin differs from its adult counterpart anatomically,physiologically, pathologically and in response to treatment.Skin diseases account for 10-35% of pediatric patients seen in general and institutional practice.

Among the 300 neonates studied with dermatological lesions,65% lesions were physiological; 19.33% were pathological; 16% were miscellanous lesions.

Among the physiological lesions,commonest lesion was Mongolian spot which was seen in 81(41.54%) and also found were transient skin conditions like Erythema neonatorum (18.97%),Milia (16.41%), Miliria (7.69%), Sebaceous gland hyperplasia(11.80%).Among the pathological lesions, 78.95% were bacterial;17.54%were fungal and 5.26% were parasitic etiology.

INTRODUCTION

Neonatal dermatology is different from pediatric dermatology. Neonatal skin is less effective in detoxifying and deactivating compounds applied on it .Term infants are prone to develop toxic effects of applied compound because their surface area is three times that of adult , premature infants are even more prone because of lack of Subcutaneous fat for insulation, poor automatic control of cutaneous vessels and functionally reduced sweating in the preterm infants contribute to poor thermal regulation.1

Diseases of the skin in the new born are usually confined to this organ with little or no systemic involvement. Available literature from India in this regard is very limited. Present study was undertaken with a view to study the physiological observations and organic skin conditions in the neonate.2,3,4,5

AIMS

To study the common physiological and pathological dermatological and conditions in the neonates.

SKIN OF THE NEWBORN6

The skin of the newborn differs from that of the adult in several ways.It is less hairy ,has less sweat and sebaceous gland secretions,is thinner, has fewer intercellular attachments, and fewer melanosomes. These differences are magnified in the preterm neonate. Newborns are not as well equipped to handle thermal stress and sunlight, most likely to develop blisters in response to heat, chemical irritants, mechanical trauma and inflammatory skin conditions.

MATERIALS AND METHODS

It was a study carried out in the department of paediatrics in S.C.L.General Hospital during the period of September 2010 to November 2012, patients with age< 1 month with dermatological lesions were included in the study.Neonates having dermatological lesions delivered in labour room, admitted in postnatal word and maternity room,those attending the pediatric O.P.D. and those developing skin lesions during the course of N.I.C.U. admission were included in the study. of September 2010 to November 2012, patients with age< 1 month with dermatological lesions were included in the study.Neonates having dermatological lesions delivered in labour room, admitted in post natal word and maternity room,those attending the pediatric O.P.D. and those developing skin lesions during the course of N.I.C.U. admission were included in the study.

OBSERVATION AND DISCUSSION

The present study is an analysis of data collected from 300 neonates having dermatological lesions from Post- natal ward , maternity room NICU and those attending OPDs during the period of September 2010 to November 2012 at S.C.L. general hospital , Ahmedabad . An attempt has been made to evaluate the common dermatological lesions in neonates.

TABLE NO.1 AGE DISTRIBUTION OF DERMATOLOGICAL LESIONS

GROUPS OF NEONATES	Age	Present study	
		(No.-300)	Percentage
Early Neonatal Period	0-7 days	227	75.67%
Late Neonatal Period	8-28 days	73	24.33%

Above table reveals that maximum dermatological lesions was observed in early neonatal period.

Out of 300 affected neonates, 227 (75.66%)Neonates had dermatological lesions in early Neonatal Period.

Out of 300 affected neonates, 73(24.33%)Neonates had dermatological lesions in late Neonatal period.

TABLE NO.2 CLASSIFICATION OF NEONATAL DERMATOLOGICAL LESIONS

LESIONS	TOTAL NO. OF NEONATES(N=300)	PERCENTAGE
PHYSIOLOGICAL	195	65%
PATHOLOGICAL	57	19.33%
MISCELLANEOUS	48	16%

Out of 300 Neonates, 195 (65%) had physiological lesions, 57 (19.33%) had pathological lesions, 48(16%) had miscellaneous lesions.

TABLE NO.3(A) MATURITY WISE DISTRIBUTION OF THE DERMATOLOGICAL LESIONS.

MATURITY	NO.OF NEONATES	PERCENTAGE
Pre-Term	65	21.67%
Full-Term	228	76.00%
Post-Term	7	2.33%

Out of 300 affected Neonates, 65(21.67%)were Pre-Term, 228(76%) were Full-Term and 79(2.33%) were Post-Term.

TABLE NO.3(B)

NO.OF PRE-TERM NEONATES	PATHOLOGICAL LESIONS	PHYSIOLOGICAL LESIONS	MISCELLANEOUS
65	27(41.53%)	26(40%)	12(18.47%)

Out of 65 Pre-Term Neonates, 27(41.53%) had pathological lesions, 26(40%) had physiological lesions and 12(18.47%) had miscellaneous lesions.

TABLE NO. 3(C)

NO.OF FULL-TERM NEONATES	PATHOLOGICAL LESIONS	PHYSIOLOGICAL LESIONS	MISCELLA-NEOUS
228	30(13.16%)	165(72.40%)	33(14.48%)

Out of 228 full-term neonates, 30(13.16%) had pathological lesions, 165(72.40%) had physiological lesions and 33 (14.48%) had miscellaneous lesions.

Hence, full term Babies have predominant physiological lesions, where as pre-term babies have more incidences of pathological lesions.

TABLE NO.3(D)

NO.OF POST-TERM NEONATES	PATHOLOGICAL LESIONS	PHYSIOLOGICAL LESIONS	MISCELLA-NEOUS
7	0	4(57%)	3(43%)

Out of 7 post-term neonates, 4 (57%) had physiological lesions and 3(43%) had miscellaneous lesions. There were no pathological lesions found in post-term.

TABLE NO.4 CO-RELATION BETWEEN DERMATOLOGICAL LESIONS AND USE AND MISUSE OF LOCAL APPLICANT PRODUCTS

LOCAL APPLICANT	TOTAL NO. OF NEONATES (N=18)	PERCENTAGE
POWDER	6	33.33%
OIL	8	44.45%
SOAP	4	22.22%
TOTAL	18	100%

Out of 300 neonates, 18(6%) had H/O usage of Local Applicant.Out of 18 neonates, 6(33.33%) had H/O usage of powder, 8(44.45%) had H/O usage of oil, 4(22.22%) had H/O usage of soap.

TABLE NO.5 DISTRIBUTION OF VARIOUS SKIN LESIONS.
(A)Distribution of Physiological Lesions

Sr.No.	Lesions	No.of Neonates	Percent-age
TRANSIENT SKIN CONDITIONS			
1	Vernix Caseosa	03	1.54%
2	Physiological Desquamations	08	4.10%
3	Sebaceous gland hyperplasia	23	11.80%
4	Milia	32	16.41%
5	Erythema Toxicum Neonatorum	37	18.97%
6	Transient Pustular Melanosis	05	2.56%
7	Miliria	15	7.69%
8	Acrocynosis	03	1.54%
9	Harlequine Change	02	1.02%
10	Cutis Marmorata	05	2.56%
11	Acne neonatorum	05	2.56%
12	Miniature Puberty		
	Gynacomastia	04	2.05%
	Vaginal Bleeding	04	2.05%
BIRTH MARKS IN NEONATES			
01	Nevus	03	1.54%
02	Mongolian Spots	81	41.54%
03	Salman Patch	03	1.53%
04	Strawberry Hemangioma	07	3.59%

Among transient skin conditions, Erythema toxicum were seen in 37 (18.97%), Milia in 32(16.41%), Miliria in 15(7.69%) and Sebaceous gland hyperplasia in 12(11.80%) neonates.

Mongolian spot is a commonest birthmark was seen in 81 (41.54%) neonates.

Other physiological skin lesions were seen less frequently.

Few Babies had more than one Physiological Lesions.

(A)

(B) Distribution of Pathological Lesions

Sr. No.	LESIONS	NO.OF NEONATES	PERCENTAGE
	BACTERIAL INFECTION		
1	Pyoderma	12	21.05%
2	Impetigo	09	15.79%
3	Mastitis	02	3.51%
4	Periporitis (Sweat gland Abscess)	04	7.01%
5	Umbilical Cord sepsis	04	7.01%
6	Petechial Spots	10	17.54%
7	Sclerema Neonatorum	02	3.51%
8	Impetigo+Submandibular Abscess	01	1.75%
	TOTAL	45	78.95%
	FUNGAL INFECTION		
1	Oral Candidiasis	05	8.77%
2	Vaginal Candidiasis	02	3.50%
3	Cutaneous Candiidiasis	03	5.26%
	TOTAL	10	17.54%
	PARASITIC INFECTION		
1	Scabies	03	5.26%

Out of 57 neonates with pathological lesions, bacterial infection was seen in 45(78.95%) neonates.

Fungal infection was seen in 10(17.54%) neonates and scabies was noted in 3(5.26%) neonates.

Out of 45 bacterial iinfections, pyoderma(21.05%) and impetigo(15.79%) were common in neonates. 1 neonate had combined lesion of impetigo and submandibular abscess. Candidiasis(17.54%) was common fungal infection in neonates.

(C)Distribution of Miscellaneous Lesions

Sr No.	LESIONS	NO.OF NEONATES	PERCENTAGE
1	Contact Dermatitis	00	-
2	Diaper Dermatitis	05	10.42%
3	Atopic Dermatitis	03	6.25%
4	Seborrhic Dermatitis	13	27.08%
	TOTAL	21	43.75%
IATROGENIC			
1	Phototherapy Rash	4	8.33%
2	Viggo Site Blister	4	8.33%
TOTAL		8	
OTHERS			
1	Umbilical Granuloma	12	25%
2	Accessory Nipple	02	4.17%
3	Perianal Redness	02	4.17%
4	Collodian Baby	02	4.17%
5	Facial Ecchymosis	01	2.08%
	TOTAL	19	39.59%

Out of 300,48(16%) neonates had miscellaneous lesions and out of which 21 (43.75%) neonates had allergic dermatitis, 8 (16.66%) had iatrogenic and 19 (39.59%) had other miscellaneous lesions.

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TABLE NO.6 COMPARISION OF DATA WITH AVAILABLE STUDIES

LESIONS	2009 A.C. INAMDAR[2]	PRSENT STUDY
Mongolian spot	60	41.54
Milia	23.8	16.41
Erythema Toxicum	21	18.97
Miliria	20.6	7.69
Sebaceous gland hyperplasia	21.4	11.80
Salmon patch	0.3	1.53
Haemangioma	3.0	3.59
Transient pustular melanosis	4.4	2.56
Acne neonatorum	5.4	2.56

Mongolian spot was the commonest physiological skin conditions seen in neonates (41.54%) in this study,which is comparabale with other previous studies like River et al in 1990, Tsai et al in 1993 and Inamdal in 2009. The incidence of other skin conditions like Erythema neonatorum, Milia, Miliria and Acne neonatorum etc. are also comparable with other studies.

SUMMARY AND CONCLUSION

Among 300 neonates with dermatological lesions, 65% were physiological; 19.33% were pathological; 16% were miscellaneous lesions.

Among the physiological lesions, commonest lesion was Mongolian spot which was seen in 81 (41.54%) and also transient skin conditions like Erythema neonatorum (18.97%), Milia (16.41%), Milia(7.69%), Sebaceous gland hyperplasia(11.80%).

Among the pathological lesions,78.95% were bacterial; 17.54% were fungal and 5.26% were parasitic etiology.

This study however indicates that the neonates skin conditions are quite common, most of these are innocuous and require only reassurance to the parents, which may decrease the anxiety in them & help to avoid unnecessary and unjustified intercention & financial loss.

Many study of this nature would help to throw light into many more aspects of neonatal dermatology in India and help a long way in an understanding of subject and proper management of these kids.

REFERENCE

1.Text Book of Ped dermatology,3rd edition. | 2.Nobbay B. Chakraborthy N.cutaneous manifestations in newborn.Indian J.Dermatology,Venereology 1991:58,69-72. | 3.Nanda A.Kaur S,Bhakoo O.N.,Dhal K.Paediatric Dermatology;1989 March 6(1);39-42. | 4.Sachdeva M,Kaur S,Nagpal M,Dewan SP.Cutaneous lesions in newborn Indian Dermatol Venereol Leprol 2002;68;334-337. | 5.Kulkarni ML,Singh R Normal variants of skin in neonetes.Indian J Dermatol Venereal Leprol 1996;62;83-86. | 6.Berand A Cohen : Paediatric dermatology,3rd edition