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Dermatoses in the Nigerian Newborn

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Abstract: Dermatoses are common findings in newborns and their pattern varies from one geographical location to another. One hundred and thirty one babies aged between 1 and 7 days delivered at the post natal ward of the State Hospital, Osogbo South Western Nigeria over a 3 month time period were studied. The 131 babies consisted of 66 boys and 65 girls, thus giving a male to female ratio of 1:1. One hundred and twenty six babies (96.2%) had dermatoses, while 5 (3.8%) did not. Mongolian spots, miliaria, salmon patch, erythema toxicum, nevus, milia, café au lait spots and sebaceous hyperplasia were seen in 87(30.6%), 70(24.6%), 54(19.0%), 38(13.4%), 14 (4.9%), 13(4.6%),5(1.8%) and 3 (1.1%), respectively. Milia and sebaceous hyperplasia had a female predilection while the remaining dermatoses were more common in the male sex. Dermatoses were located on the buttocks, face, fore heads, napes, lower limbs, chest, eyelids, noses, upper limbs, necks, abdomen, backs and ears in 81(24.7%), 70(21.3%), 58(17.7), 38(11.6%), 15(4.6%),14(4.3%), 12(3.7%), 9(2.7%),9(2.7%), 7(2.1%), 7(2.1%), 7(2.1%) and 1(0.3%) cases, respectively. Of the 126 mothers whose babies had rashes, 28 (22.2%) were able to detect heat rashes in their babies prior to being examined. Most of the dermatoses recorded were benign. The café au lait spots on one of the 131 babies was a pointer to the diagnosis of neurofibromatosis. It is concluded that benign dermatoses of the newborn is common among the Nigerian newborn. The health care giver thus needs to be conversant with the dermatoses in his environment in other to manage them properly.

Key words: Dermatoses, newborn, babies, conversant, neuro fibromatosis, hyperplasia

INTRODUCTION

Neonatal dermatoses are frequently encountered skin lesions in the newborn. A previous study has stated that almost every newborn has at least one dermatosis (Pereira *et al*., 2001). Most of the dermatoses in the newborn are physiologic, transient and self limiting thus they require no therapy (Sachdeva *et al*., 2002). However, some lesions may be persistent and present with clinical significance thus meriting special attention by the attending physician (Pereira *et al*., 2001; Sachdeva *et al*., 2002). Obvious dermatosis of the newborn may also be a source for parental concern and worry (Thomas, 1999). It is thus important for physicians to be able to identify and properly manage these dermatoses.

There is scarcity of information on dermatoses of the newborn in Nigerian children. In addition, the prevalence and types of dermatoses of babies delivered in the Osogbo community and at the State Hospital Osogbo is unknown, thus making it desirable to study dermatoses in this community. The State Hospital Osogbo is the only tertiary hospital providing free health services in Osun-State, thus it is well patronized. It is located in Osogbo town which is the capital of Osun-State, South Western Nigeria.

MATERIALS AND METHODS

Consecutive babies of mothers seen at the post natal ward of the State Hospital, Osogbo, South-Western Nigeria were studied. The study was conducted between January 1st and March 31st, 2006. Informed consent was first obtained from all the mothers of babies seen between the 1st and 7th day of delivery. Details of the ages, sexes and gestational age at of the babies based on maternal calculation were obtained from the mothers.

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The educational status of the mothers were also obtained and recorded in a proforma together with other relevant information. Also, the mothers were asked if they had noticed any mark or rash on their babies' skin and the type lesions noticed were recorded.

The babies were then stripped naked in a well lit warm room and examined for the presence of dermatoses, its location and associated complications or conditions when present. The lesions were identified based on descriptions and pictures from standard text (Behrman *et al*., 2000). All examinations were conducted by one of us OOA.

Results were expressed as descriptive statistics. The method of analysis was through the use of range, simple percentages and ratios.

RESULTS

Population studied: A total 131 babies were studied and their ages ranged between 1 and 7 days. More than half 73(55.7%) of the neonates studied were aged between 1-3 days and the remaining 58(44.3%) neonates were aged between 4-7 days. The 131 babies consisted of 66 boys and 65 girls, thus giving a male to female ratio of 1:1. By gestation age 108 (82.4%) were term, 16(12.2%) were preterm and 7(5.3%) posterm. The age and sex distribution of the babies studied is shown in Table 1.

Prevalence and types of dermatosis: Among the 131 neonates studied 126(96.2%) had dermatoses, while 5 (3.8%) did not. Of the 126 babies with dermatoses 97(77.0%) had more than one dermatosis, while 29(23.0%) had a single dermatosis each. Among the 126 babies with dermatoses, mongolian spots, miliaria, salmon patch, erythema toxicum, nevus, milia, café au lait spots and sebaceous hyperplasia were found in 87(30.6%), 70(24.6%), 54(19.0%), 38(13.4%), 14(4.9%), 13(14.6%) 5(1.8%) and 3(1.1%) cases, respectively.

Sex distribution of dermatosis: All the dermatoses recorded were more common among the male sex with the exception of milia and sebaceous hyperplasia which were more common among the female sex. The sex distributions of the different dermatosis seen are show in Table 2.

Relationship between dermatoses and the gestational age of the neonates: Dermatosis was recorded in 126 neonates. By gestational maturity dermatoses were found in 105(83.3%) term, 14(11.1%) preterm and 7(5.6%) posterm babies. Among the 105 term babies studied 86(81.9%) had more than one dermatoses, while 19(18.1%) babies had a single dermatosis each. Among the 14 preterm babies, 7(50%) had more than 1 dermatoses while the remaining 7(50.0%) babies had one dermatosis each. All the 7 posterm neonates studied had dermatoses. Of the 7 posterm neonates 4(57.1%) had more than one dermatoses, while the remaining 3(42.9%) had one dermatosis each. The pattern of dermatoses seen among the term, preterm and posterm is shown in Table 3.

Location of the dermatosis: The most common sites where the dermatoses were found are the buttocks, face and fore head. On the other hand, the ear, abdomen and back were the least affected sites. The parts of the body were the dermatoses were found are shown in Table 4.

Awareness of the mothers of babies dermatosis: Twenty eight (22.2%) of the 126 mothers whose babies had dermatoses were able to detect them prior to being examined. However, heat rashes were the only dermatosis identified by the mothers.

Table 1: Age and sex distribution of babies studied

Age in days	Sexes (%) of babies in the age category		Total no. of babies in age category
	No. of boys	No. of females	
1	18(46.2%)	21(53.8%)	39
2	9(60.0%)	6(40.0%)	15
3	13(68.4%)	6(31.6%)	19
4	6(42.9%)	8(57.1%)	14
5	7(36.8%)	12(63.2%)	19
6	8(50.0%)	8(50.0%)	16
7	5(55.6%)	4(44.4%)	9
Total	66	65	131

Table 2: Sex distribution of the neonates with dermatoses

Type of dermatosis	No. of boys with dermatosis	No. of girls with dermatosis	Total neonates in the category
Mongolian spot	47	40	87
Miliaria	39	31	70
Salmon patch	29	25	54
Erythema toxicum	24	14	38
Nevus	8	6	14
Milia	4	9	13
Café au lait spots	3	2	5
Sebaceous hyperplasia	0	3	3
Total	154	130	284

Table 3: Relationship between dermatoses and the gestational age of the neonates

Types of dermatoses	No of term babies with dermatoses	No of preterm babies with dermatoses	No. of posterm babies with dermatoses	Total
Mongolian spots	77	6	4	87
Miliaria	63	4	3	70
Salmon patch	50	2	2	54
Erythema toxicum	34	2	2	38
Nevus	11	1	2	14
Milia	9	3	1	13
Café au lait spots	5	0	0	5
Sebaceous hyperplasia	3	0	0	3
Total	252	18	14	284

Table 4: Location of rashes on the body

Site on body	Mongolian spot	Miliaria	Salmon patch	Erythema toxicum	Nevus	Milia	Café au lait spots	Sebaceous hyperplasia	Total
Head	58								58
Eyelids	12								12
Nose						7		2	9
Face	1	16	7	36	1	6	2	1	70
Ear						1			1
Nape			38						38
Neck	1	4			1		1		7
U. limbs	1	3		3	2				9
L. limbs	9	1			2		3		15
Abdomen	3	1			2		1		7
Buttocks	77				3		1		81
Chest	2	7		5					14
Back	4			1	2				7
Total	98	90	57	45	13	14	8	3	328*

*Note: The number of cases of each type of dermatosis is more than the number of babies with dermatosis recorded, because some babies had more than one type of dermatoses affectation

Associations of dermatosis with medical conditions or complication: A baby with several café au lait spots fulfilled had neurofibromatosis. There were no medical associations or complications associated with the dermatoses seen in the other 130 babies.

DISCUSSION

The prevalence of dermatoses in the newborn varies around the world between 79.4 and 100 % (Pereira *et al*., 2001; Baruah *et al*., 1991). The prevalence figure of 96.2% obtained for dermatoses in the present study is high but comparable to the previously stated studies. Our findings of Mongolian spots being the most common birth mark among neonates in the present study are similar to those of previous studies (Pereira *et al*., 2001; Shih *et al*., 2007; Dash *et al*., 2000). Mongolian spots are however not very common among Australian neonates (Rivers *et al*., 1990). This difference in the rates of occurrence of Mongolian spots can be explained by a previous study which shows that Mongolian spots are more common in Negro children compared to Hispanics and Caucasians (Cordova, 1981; Shih *et al*., 2007). The usual lumbosacral location and the grey to grayish blue colour of this benign rash help in its identification.

Miliaria is a disorder of eccrine sweat glands that often occurs in conditions of increased heat and humidity (Nikki and Barbara, 2007). The disease is thought to arise as a result of blockage of the sweat pores which leads to leakage of eccrine sweat into the epidermis and dermis. It is common in neonates because of the small size of sweat pores, which predisposes them to easy blockage (Nikki and Barbara, 2007). We found heat rashes in some preterms in the present study which is at variance with an Indian study (Dash *et al*., 2000). A possible explanation for this is that the poorly developed and smaller sweat pores of preterm baby may be more liable to blockage. Our high prevalence of miliaria is comparable with the 49% prevalence documented in Jordan (Khaled and Al-Dahiyat, 2006). The similar climatic conditions in the 2 environments may account for this similarity.

Erythema toxicum is a benign self limiting dermatosis of unknown origin that occurs in the first days of life (Pereira *et al*., 2001). It affects 30-70% of neonates studied and the immaturity of the pilosebaceous follicles has been postulated to be associated with its development (Thomas, 1999). Our findings of erythema toxicum commonly located on the face and trunk are similar to other studies. It must however, be distinguished from transiet pustular melanosis and impetigo (Pereira *et al*., 2001).

The most common vascular birthmarks observed in the present study were Salmon patches. They are also known as nevus simplex and are flat pink vascular ectasia found in the eyelids, glabellar or nape (Thomas, 1999). These locations were the common locations of this patches in the present study. They are more common than the other naevi recorded in the present study which could either be melanocytic or capillary hemangiomas. Inability to conduct histological and radiological investigations on these lesions made the differentiation impossible in the present study. Salmon patches like most of the other naevi are benign. A small percentage of melanomas run the risk of malignancies, while hemangiomas can result in cosmetic embarrassment or cause obstruction of the some body structures depending on their location, therefore these lesions should be followed up closely.

Café au lait spots are found in 10-20% of normal newborn population (Pereira *et al*., 2001). Occasionally, as was observed in the present study the presence of more than six spots with a diameter larger than 5 mm may be a pointer to neurofibromatosis (Pereira *et al*., 2001;

Kam and Helm, 2007). Early detection of this neurocutaneous syndrome gives the advantage of early monitoring for potential risks of opthamologic, audiologic complications and malignant bone transformation.

Milia are superficial inclusion cysts, while sebaceous hyperplasia is a physiologic phenomenon represented by multiple micropapules that are skin coloured that occurs as a result of maternal hormones. Withdrawal of the maternal hormones leads to its spontaneous resolution within 2 weeks of birth. Both rashes commonly occur on the nose and cheek. Our findings regarding the common facial location and its relatively low prevalence compared with Mongolian spots and salmon patches in the present study are similar to those of the Jordan study (Khaled and Al-Dahiyat, 2006). Milia and sebaceous hyperplasia were however found to be more common in the Australian study (Rivers *et al*., 1990).

CONCLUSION

It is concluded that dermatoses are common in the Nigerian newborn. Oftentimes the diagnoses of dermatoses in the newborn are missed by parents. Thus, the onus of correctly identifying these dermatoses, managing promptly and appropriately rests squarely on the physician. Benign dermatoses need to be distinguished from more serious disorders. Recognition of these dermatoses will enable the physician to proceed appropriately, reassure parents and initiate further evaluation or treatment as necessary. To avoid adverse sequelae special attention must be given to persistent conditions and those with potentials for complications or malignant transformation.

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