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Epidemiological and Clinical Aspects of Neonatal Dermatoses at the National Teaching Hospital HKM of Cotonou Benin

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Abstract

Neonatal dermatoses (NND) are frequent, varied and of variable prognosis. The objective of this work was to study the epidemiological and clinical aspects of NND at the NTH-HKM. **Methods**: This was a cross-sectional descriptive and analytical study from December 1, 2014 to February 28, 2015. All newborns received in the Department of Pediatrics and Medical Genetics and with dermatosis were included. The diagnosis of dermatoses was clinical. **Results**: During the study period, 355 newborns had at least one NND on a total of 580 newborns received, a prevalence of 61.2%. The sex ratio was 1.54 and the average age was 3.11 days. Transient dermatoses were more frequent (80%), dominated by desquamation + xerosis (33.75%). Congenital melanocytic nevi (40.74%) and malformations and vascular tumors (18.52%) were the most noted pathological neonatal dermatoses. Only age was statistically associated with NND. **Conclusion**: DNH is common in newborns at the NTH-HKM. They were mostly transitory. Pathological conditions should be treated where appropriate.

Keywords

Epidemiological and Clinical Aspects, Dermatoses, Newborns, Benin

1. Introduction

Neonatal dermatoses (NND) are mucocutaneous and/or phanerian disorders observed between the 1st and the 28th day of life. They are frequent, diverse and

of variable prognosis [1]. They may be transient or constitute true pathologies requiring treatment. It is therefore important to recognize these dermatoses in order to carry out a good evaluation of each case in order to make an appropriate care. Few works have been done on the subject in Africa. The objective of this study is to study the epidemiological and clinical aspects of NND at the NTH-HKM in Cotonou.

2. Methods

This was a cross-sectional descriptive and analytical study that took place from December 1st, 2014 to February 28th, 2015. All newborns seen in consultation or hospitalized in the Department of Pediatrics and Medical Genetics dermatosis were included. The diagnosis of dermatoses was clinical. After the newborn was examined by a dermatologist, the parents were interviewed and the data supplemented using the newborn's medical record. Any child born before 37 weeks of amenorrhea was considered premature. It is post-term when gestational age was greater than 42 weeks of amenorrhea. Any birth weight greater than or equal to 2500 grams was normal. The data collected were recorded and processed with the EPI INFO software version 3.7. The Chi^2 test was used to compare the proportions. The threshold of significance was $p < 0.05$.

Transient neonatal dermatoses: skin manifestations characterized mainly by their spontaneous reversibility, from a few minutes to a few days or weeks.

Pathologic neonatal dermatoses: cutaneous manifestations which do not heal spontaneously during the first month of life and which mostly require treatment.

3. Results

3.1. General Characteristics of Newborns

We examined 580 newborns, of whom 355 had at least one dermatosis. The prevalence of NND at the NTH-HKM was 61.2%. Boys accounted for 60.56% and girls 39.44% of newborns included, with an average age of 3.11 days. Regarding gestational age, the term of pregnancy was imprecise for five (05) newborns. The general characteristics of newborns are summarized in Table 1.

3.2. Clinical Features

Transient dermatoses were found in 323 (80%) newborns such as desquamation, xerosis, sudoral military, mongoloid spot, sebaceous hyperplasia toxic erythema ecchymosis and haematoma and melanic pustulosis. Pathological dermatoses were found in 81 (20%) newborns such as congenital melanocytary nevus, vasculary lesions, infectious dermatosis, irrritative dermatosis, cutaneous malformations, ichtyosis and congenital non infectious bullous dermatosis.

Congenital melanocytic nevus was the most frequent pathological NND (40.74%).

Table 2 and Table 3 respectively show the distribution of cases of transient NND and pathological NND.

Table 1. General characteristics of newborns.

Dernatoses	Transient	Pathological
	80%	20%
Sex	Male	Female
	60.66%	39.44%
Age of newborns	Less than 1 week	More than 1 week
	90.98%	9.02%
Term	Prematurity	Post maturity
	10%	5.14%
Newborn's weight	≤2500 gr	>2500 gr
	84.79%	15.21%
Delivery's way	Caesarean	Low
	73.80%	26.20%
Gestity	Multigravida	Nulligeste
	68.45%	31.55%
Parity	Multipare	Primipare
	62.82%	37.18%

Table 2. Sharing out of cases of transitional NND.

Transitional dermatosis	Effectif	Percentage (%)
Desquamation + xerosis	109	33.75
Sudoral miliary	72	22.29
Mongoloïd spot	69	21.36
Sebaceous hyperplasia	40	12.38
Toxic erythema	15	4.64
Ecchymosis + Haematoma	12	3.72
Melanic pustulosis	6	1.86
TOTAL	323	100

Table 3. Sharing out of cases of pathological NND.

Pathological dermatosis	Effectif	Percentage (%)
Congenital melanocytary naevus	33	40.74
Vasculary lesions	15	18.52
Infectious dermatosis	13	16.05
Irritatives dermatosis	10	12.35
Cutaneous malformations	5	6.17
Ichtyosis	3	3.70
Congenital non infectious bullous dermatosis	2	2.47
TOTAL	81	100

Figure 1 shows a case of congenital cystic lymphangioma vascular malformation.

The lesions were much more present in the glabrous skin (face, neck, trunk, limbs) with a predominance in the trunk (39.08%) and then in the cephalic region (34.45%).

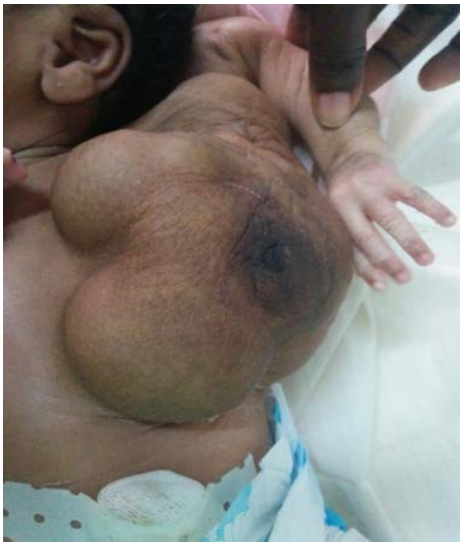

Figure 1. Congenital cystic lymphangioma of the left side of the thorax and shoulder.

3.3. Correlation between NND and Neonatals Factors

The correlation between NND and certain neonatal factors is given in **Table 4**. It's appear that the age of the newborns have a correlation with the dermatosis witch are seen. We didn't find another significant correlation between neonatal factor and NND.

4. Discussion

Several studies have been carried out on the prevalence of NND in different countries and races. The literature reports a prevalence between 40% and 100% [2] [3]. The prevalence of 61.2% in our study is close to that reported by LORENZ S. (59.7%) in Germany [4]. On the other hand, it is less than that obtained by EKIZ Ö. In Turkey (67.3%), KANE A. in Senegal (94.2%), TRAORE A. in Burkina Faso (95%) and OYEDEJE OA in Nigeria 96%) [8]. These different results can be related to study methods (multiplicity of study sites, longer study duration, age of newborns included) and racial characteristics.

The majority (80%) of NNDs were transient as reported by many other authors [5] [6] [8] [9]. This is due to the fact that these dermatoses are phenomena of physiological adaptation to the air environment and linked to intrauterine life. Of these, the most frequent were desquamation + xerosis (33.75%), sweating miliary (22.29%), mongoloid spots (21.36%) and sebaceous hyperplasia (12.38%). These neonatal dermatoses were also the most noted in Senegalese newborns except for the sudoral miliary [6]. The Sahelian-Senegalese climate of Senegal could explain this low rate of sweat miliary observed. KANE A. and FERHABAS A. noted in Senegal and Turkey that desquamation + xerosis was the most frequent dermatosis [6] [10] as we observed (33.75%) at rates of 41%, 43% and 39.5% respectively. These results are in the range of 72% to 83% reported in the literature [11] [12]. In our study, miliary sweat was the second (22.29%) NND

Table 4. Correlation between NND and neonatals factors.

Maternals and neonatals factors	Effectif	p
Newborns' age		
<7 days	323	0.000
>7 days	32	
Sex		
Male	215	0.635
Femal	140	
Pathway of delivery		
Cesarean section	262	0.711
Lower way	93	
Gestationnal age		
Premature	35	0.157
Term	297	
Post-term	18	
Born weight		
<2500 g	54	0.652
>2500 g	301	
Mother's parity		
Primipara	132	0.157
Multipare	223	

most encountered as in Nigerian newborns (24.6%) [8]. SACHDEVA M. had a rate of 23.8% of sweat miliary in Indian infants [12], similar to that of our study. On the other hand, TRAORE A. in Burkina Faso had as first neonatal dermatosis the sweat miliary with a rate of 31.1% [7]. This higher rate may be related to climatic conditions and the study period. The rates of mongoloid spot (21.36%) and sebaceous hyperplasia (12.38%) noted in our study are close to those obtained by KANE A. in Senegalese newborns (23.72% for Mongoloid spots and 16.51% for sebaceous hyperplasia) [6]. As for the pathological DNN, the congenital melanocytic nevus came first (40.74%) as in the KANE A. study (39.6%) [6]. The second pathological DNN we noted was the malformations and vascular tumors with a proportion of 18.52%. This rate is close to those of CHAITHIRAYANON S. (16.9%) [13] and FERAHBAS A. (19.2%) [10].

The majority of the NNDs concerned the glabrous skin in our study as also noted KANE A. [6]. The trunk was the most affected anatomical zone followed by the cephalic part (scalp + face + neck). This is consistent with the results of TRAORE A. in Burkina Faso [7].

Different studies have been conducted on the correlation between NNDs and some maternal and neonatal factors. In our series, out of the age of newborn babies, no statistically significant relationship could be established with the other factors studied (sex, gestational age, childbirth, birth weight, parity of mothers). TRAORE A, SACHDEVA M and JAIN N [7] [12] [14] also did not find a corre-

lation between the NND factors mentioned above. However, HAVERI FTTS. [15] as well as SHEHAB M. [16] noted that birth weight was statistically associated with NND. This may be due to the difference in the method of study (inclusion and exclusion criteria).

5. Conclusion

This study allowed us to take stock of the NND at the NTH-HKM given that no data existed on the subject in Benin. It shows us that NNDs are common among newborns at the NTH-HKM. Transient dermatoses were predominant and should be distinguished from pathological dermatoses for possible treatment. Further in-depth investigations, whether or not to specifically link each DNN to particular factors, should be conducted.

Conflicts of Interest

No conflicts of interest to declare.

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