

Research

Neonatal Skin lesions in Jordan, Study of Consecutive 500 neonates at King Hussein Medical Center

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ABSTRACT

The aim of this study is to assess the frequency the neonatal coetaneous lesions in the first 72hours after birth in the Jordanian neonates and Compare it with the existing literature. An overall 500 neonate born consecutively at the king Hussein medical center in Amman was included in this cohort study. The study took 4 months, consent from parents of those neonates were taken. Clinical examination, dermatological examinations were carried out to check their eligibility to enter this study and to diagnose the skin lesions. Consultations to dermatologists were done in the beginning of the study, especially, in the doubtful coetaneous lesions. Epstein pearls was the commonest skin lesion 415 neonate (83%), followed by Mongolian spot 390 (78%), Erythema toxicum was found in 350 neonates (68%), milia 285 (57%), sebaceous hyperplasia 255 (51%), miliaria 245(49%), salmon patch 160 (32%), desquamation 105(21%), congenital melanocytic naevus 15(3%), colloidon baby 2(004%). These results are near from findings of other authors who assessed the frequency of skin lesion except; Erythema toxicum is higher in our dark skinned population than was expected, which may suggest reasons other than racial factors.

Keywords: Skin lesions, cutaneous disorders, newborns

INTRODUCTION

Jordan is a developing country. As the case with all the developing countries, the rate of neonatal mortality is still higher than the developed nations, where care is so advanced and facilities are in abundance in particular for the premature neonates. The importance of study the neonatal skin disorders are to recognize those skin lesions that necessitate an early intervention from benign commonly seen skin lesions [1].

The appearance of the neonatal skin lesions is regarded as physiological phenomenon. Other opinion suggested prognostic factors. The racial influence [2] seems to be more convincing; therefore, it appears that brown melanocytic skin stains are more prevalent among dark colored societies, and vice versa. The above notion seems

accurate and practical, but has drawbacks as found in our study.

The aim of this study is to assess the frequencies and patterns of different neonatal skin lesions in the first 72 hours of life in Jordanians neonates and compare findings with others findings, to reach an answer for the effect of racial influence in their appearances in the neonatal period.

METHODS

The Prospective, cohort, descriptive study comprised of 500 neonates born consecutively at KHMC between May – December 2001 by either N.V.D or caesarian sections. Age of neonates was less than 72 hours; they were subjected to thorough clinical and dermatological examination by a pediatrician. The same pediatrician examined the neonates in order not to fill into bias. Consent was taken from parents after being thoroughly informed about the aim and methods of the study according to Helsinki conventions. The results of the clinical and dermatological examination were kept in special register at the Neonatology Department.

The data recorded were age, sex, gestational age, weight, mode and complications at delivery. No statistical analysis has been carried out apart from simple tabulation.

Healthy neonates below 48 hours after the delivery
Not below 2.75 kg and not more than 3.8 kg
Above 36 weeks gestation and less than 4.2wks gestation
No associated structural abnormality or sex ambiguity
Not admitted at the neonatal ward or had infusion, therapy

Table 1. Study characteristics of included neonates

RESULTS

500 neonates were examined. 256 girls, 235 boys. 378 were born at term, 222 were premature healthy neonates but their weights were above 2.75 kg. Out of the five hundred neonates included 397 were normal vaginal delivery and 113 born by caesarian sections. At least one skin lesion was found in 476 patients and 387 had 2 skin lesions (mostly Erythema toxicum and Epstein pearls).

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 2 cm in diameter. Colloidon membrane was found in 2 term females. See table number (2,3):

Skin lesions	Total
Epstein pearls	415
Mongolian spots	390
Erythema toxicum	340
Milia	285
Sebaceous hyperplasia	255
Miliaria	245
Salmon patch	160
Desquamatio	105
Cong.melanocytic nevus	15
Colloidon baby	2

Table 2. Frequency of skin lesions

Epstien and Erythema toxicum	Mongolian spots and Sebaceous hyperplasia	Milia and sebaceous hyperplasia	Salmon patch and Erythema toxicum	Desquam-ation and Mongolian spots
187	162	56	46	34

Table 3. Neonates with 2 skin lesions

Skin lesions	Girls (%)	Boys (%)	Overall (%)
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%
Cong. melanocytic naevus	1%	2%	3%
Colloidon baby	0.004%	0%	0.004%

Table 4. Percentage of frequency according to sex.

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 Epstein 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, while Indian study reported 20% [4], 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, Epstein 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 Desquamation 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, Mongolian spots and E. Toxicum was 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 was 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 come 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 races to certain

neonatal skin lesions? Our study, which included neonates coming from Arab decent, had similar results with high frequency of Mongolian spots in boys (45%) compared with girls (33%)?

In Conclusion of this cohort descriptive study, findings are Erythema toxicum, Mongolian spots, Epstein pearls, were the commonest skin disorders in our neonates. This is slightly different from the universal results, in particular Erythema toxicum that was the 3rd commonest skin lesion in our neonates with frequency of 68%, which is the highest normal of the universal frequency (30% to 70%), and with no sex or race predilection [12]. Neonates who had more than one skin lesion were 387 (77%) and mainly had E. toxicum and Epstein pearls.

LIMITATIONS AND STRENGTH OF THIS STUDY:

Each and every study has different weaknesses in either internal validity as well as external validity. The number of the included neonates neither large to make loss of resources nor small to render the study ungeneralizable. This study is mixture of both qualitative and quantitative research, which makes it having both advantages of these two methods. The fact that this study was done by one doctor makes it less prone to bias, because, many examiner easily introduce bias to result of the clinical examination.

The addition of population characteristics adds more focus to this consecutive study and adds an element of randomisation to the study, randomisation adds more robustness to the results of the study by allowing even and just comparison between population groups included in the study final analysis.

All the previous studies [2],[3],[4],[10] which has the same aim of our study attempted to examine the neonates in the first 48 hours which seem to introduce inaccuracies in calculating some skin lesions such as E. toxicum and Milia, which appears from 3 –7 days after birth [12], but in this study, attempt to bring back the neonates to the day- care clinic on the 3rd day to check for skin lesion if he or she was discharged from well baby ward at the 48 hours, were routine discharge is attempted, except for neonate born by Caesarean sections whom they stays 3 days at hospital. The same concept was taken care of by studies [5], [6], [9], [11], in order not to fall in this important setback.

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