

Transient Neonatal Dermatoses: A Case Series Study

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Abstract

Introduction: The neonatal period is regarded as first 28 days of extra uterine life. Various cutaneous manifestations are commonly seen during this period, most of which are benign, transient and physiological. Nevertheless these conditions often cause anxiety and serious concern to the parents leading to significant psychological stress and sometimes suffer from unnecessary treatment by over-consciousness or by lack of knowledge. *Aims and objectives:* to study the prevalence of transient cutaneous manifestations in neonates. *Material and Methods:* A prospective case series study comprising of 200 neonates during the first 28 days of life in the post natal wards or attending outpatient department of pediatrics at Sri Adichunchanagiri hospital and research centre, BG Nagara. *Results:* Out of 200 newborns examined, 153(76.5%) had one or more cutaneous lesions, 103(67.3%) having multiple and 50(32.3%) with single type of lesion. Female babies, LBW and post term babies had higher incidence with 94% of cases presenting in the first week of life. Erythema toxicum constituted the maximum of 62(40.5%) followed by Mongolian spot, lanugo hair with 47(30.7%) cases and milia 39(25.4%). Miniature puberty constituted 36(23.5%) followed by caput succedaneum with 21(13.7%) and physiological scaling 19(12.4%) cases. The least number of manifestation observed was accessory nipple and transient pustular melanosis with 01(0.6%) and 02(1.3%) cases respectively. *Conclusion:* Cutaneous manifestations are very common especially during the first 7 days of life. Thorough knowledge of these transient conditions is essential to avoid unnecessary investigations and treatment and to alleviate the parental concerns.

Keywords: Neonate; Transient; Cutaneous; Dermatoses.

Introduction

The neonatal period is regarded as first 4 weeks of extrauterine life. The transition from an aqueous atmosphere to a dry one imposes a serious challenge on the neonatal skin [1]. The skin of the newborn differs from that of an adult in many ways, a higher skin surface area to weight ratio; the connection between the dermis and the epidermis is less strong, the skin is thinner and less elastic, the permeability of the stratum corneum is higher and epidermal barrier is not well developed and production of

melanin is less [2,3].

Various cutaneous manifestations are commonly seen during neonatal period, most of which are benign, transient and physiological [4]. Nevertheless these conditions often cause anxiety and serious concern to the parents leading to significant psychological stress and sometimes suffer from unrequired over treatment by over-consciousness or by lack of knowledge [5].

The available literature on neonatal dermatoses in our country is meager and only a few reports are available on cutaneous lesions in the newborns

among rural population. Keeping this in mind, the study was undertaken to know the incidence and diversity of cutaneous lesions in the neonatal period in newborns attending or admitted in a rural medical college.

Objectives

To study the prevalence of various transient cutaneous manifestations in neonates.

Materials and Methods

A prospective case series study consisting of 200 consecutive newborns was conducted at Sri Adichunchanagiri hospital and research centre, BG Nagara. The study material comprised of all newborns irrespective of gestational age, sex and mode of delivery during their hospital stay in postnatal wards or those attending OPD within 28 days of life. Neonates admitted in neonatal intensive care unit (NICU) were excluded from the study as repeated handling and any invasive procedures can increase the risk of sepsis and would alter skin changes.

The Neonatal period by definition extends from the 1st to the 28th day of life. The early neonatal period constitutes the first 7 days of life while the late neonatal life is from the 7th to the 28th day. A term infant is defined as any infant born after 37 completed weeks of gestation and before 42 completed weeks. A preterm infant is similarly any infant born before 37 completed weeks of gestation, while a post-term infant is any infant born at 42 weeks of gestation or more [6].

Detailed perinatal history including mode of delivery, gestation, sex, birth weight and day of life were recorded. All newborns were subjected to clinical

and dermatological examination by a Pediatrician daily in the post natal wards or during the OPD visit. The entire skin surface, including the mucous membranes and the nails was thoroughly examined. Cutaneous lesions so found on examination were confirmed as to diagnosis and, if need be, managed by a Dermatologist. No specific investigations or intervention were conducted on the newborns and only the photographs were taken. Data was recorded in the predesigned proforma and analyzed using simple proportions and percentages.

Results

Out of 200 cases examined 106 (53%) were male babies and 94 (47%) were females. 128 (64%) were vaginal and 72 (36%) were caesarian deliveries. 51 (25.5%), 139 (69.5%) and 10 (5%) were pre-term, term and post term deliveries respectively. 103 (51.5%) were low birth weight (LBW) babies i.e ≤ 2.5 kg and 97 (48.5%) were of birth weight ≥ 2.5 kg. 153 cases (76.5%) cases had cutaneous lesions out of 200 neonates.

In relation to cutaneous lesion and newborns day of life with its presentation 96% lesion are found to be noticed by first week of life and 4% in the second week of life.

Sex predilection in relation to cutaneous lesions in our study revealed that female's outnumbered males with 74 out of total 94 females (78.7%) as compared to 79 out of total 106 males (74.5%) had cutaneous lesions.

Analysis pertaining to the birth weight revealed 73 of 97 babies (75.2%) weighing more than or equal to 2.5kgs had cutaneous lesion as compared to 80 of 103 (77.6%) LBW babies in the present study. The maximum number of cutaneous lesions was seen in

Table 1: Distribution of cutaneous lesions according to day of presentation

Day of Life	1 ST Week	2 ND week	3 RD week
% of Cases With Lesion	96	04	00

Table 2: Cutaneous manifestation in relation to perinatal factors

Perinatal factor		Total cases	Cutaneous manifestation	
			Yes	No
Mode of delivery	Vaginal	128 (64%)	101	27
	LSCS	72 (36%)	52	20
	Preterm	51 (25.5%)	42	9
Gestation	Term	139 (69.5%)	102	37
	Post term	10 (5%)	9	1
	Male	106 (53%)	79	27
Sex	Female	94 (47%)	74	20
	≤ 2.5 kg	103 (51.5%)	80	23
Birth weight	≥ 2.5 kg	97 (48.5%)	73	24

Table 3: Distribution of cutaneous lesions according to type

Cutaneous Lesion	Number of lesion	Percentage
Erythema Toxicum	62	40.5
Mongolian Spot	47	30.7
Lanugo Hair	47	30.7
Milia	39	25.4
Miniature Puberty	36	23.5
Caput Succedaneum	21	13.7
Physiological Scaling	19	12.4
Salmon Patch	13	8.4
Acne Neonatrum	05	3.2
Epstien Pearl	05	3.2
Sucking Blister	03	1.9
Transient Pustular Melanosis	02	1.3
Accessory Nipple	01	0.6

Table 4: Frequency of neonatal dermatoses in previous studies

Skin lesions	Sandeep B, et al ¹	Gokdemir, et al ⁵	Al-Dahiyat, et al ¹¹	Zagne V, et al ¹²	Present study
Erythema toxicum	36.4	39.3	68	36.9	40.5
Mongolian spot	61.6	20.1	78	50.7	30.7
Milia	32.4	27.1	57	13.8	25.4
Physiological scaling	9.6	13.3	21	18.2	12.4

babies weighing less than 2.5 kgs. In relation to the gestational maturity results revealed that 42 of 51 preterm (82.3%), 102 of 130 term (78.4%) and 9 out of 10 post term (90%) had cutaneous lesions. The babies born post term had higher incidence of cutaneous manifestations.

Out of 200 newborns examined, 153 (76.5%) had one or more cutaneous lesions. Out of 153 cases with cutaneous lesion 103 (67.3%) had more than one type of lesion and 50 (32.3%) had single type of lesion. Erythema toxicum constituted the maximum of 62 (40.5%) followed by Mongolian spot, lanugo hair with 47(30.7%) cases and milia 39 (25.4). Miniature puberty in the form of breast engorgement or vaginal discharge constituted 36 (23.5%) cases.

The least number of manifestation observed was accessory nipple and transient pustularmelanosis with 01 (0.6%) and 02 (1.3%) cases respectively.

Discussion

Cutaneous lesions are not uncommon in the neonatal period. Prevalence of neonatal dermatoses in different studies were reported to be between 57 and 99.3% [5,7]. These differences in prevalence may be due to differences in the study methods and racial factors [8]. Prevalence in our study found to be 76.5%. 94% cases presented in the first week of life which may be due to keen observation by the parents during early days and regular postnatal follow up by the residents.

We found higher incidence in females (78.7%) as compared to males (74.5%). Observations from the study conducted by Sachdeva et al [9], Kulkarni ML et al [10] revealed that males outnumbered females in relation to the incidence of cutaneous lesions. 77.6% LBW babies had cutaneous lesions as compared to babies weighing more than 2.5kg with 75.2%. The babies born post term (90%) had higher incidence of cutaneous manifestations followed by preterm and term born neonates with 82.3% and 78.4% respectively.

In a study by Ahsan U et al [13] comprising 1000 neonates, 94% had cutaneous manifestations with 82.5% had more than one lesion, 82.6% were of birth weight more than 2.5 kg. We found that 67.3% having multiple lesions among neonates with skin manifestation.

Erythema toxicum constituted the maximum of 62 (40.5%) followed by Mongolian spot, lanugo hair with 47(30.7%) cases and milia 39 (25.4). Miniature puberty in the form of breast engorgement or vaginal discharge constituted 36 (23.5%) cases. Lanugo hair was noted predominately among preterm babies. Caput succedaneum was noted in 13.7% cases majority among term and post term babies born vaginally.

Physiological scaling was observed in 12.4% cases mostly among the post term. Least number of manifestation observed was accessory nipple and transient pustular melanosis with 01 (0.6%) and 02 (1.3%) cases respectively. The above differences in cutaneous manifestation among various studies

could be due to differences in study methods, racial and geographical factors.

Conclusion

We conclude that cutaneous manifestations are very common especially during the first 7 days of life. Thorough knowledge of these transient conditions is essential for the pediatricians to avoid exposing the neonate to unnecessary investigations and treatment and to alleviate the parental concerns.

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