



## Study of Neonatal Skin Disorders: A Cross-Sectional Study in a Tertiary Care Hospital

Jayakar Thomas

Professor and Head, Deepthi Ravi, Senior Resident, Department of Dermatology, Sree Balaji Medical College, Chromepet, Chennai 600044

**ABSTRACT**

**Introduction:** Skin lesions are commonly seen in neonates. Many skin lesions are specific to neonates. They vary according to age, sex and geographic region.

**Objectives:** To determine the prevalence of different cutaneous lesions in newborns and their association with type of delivery, age, sex and maturity.

**Materials and methods:** All the healthy new-borns coming to the neonatal OPD of paediatrics, MKCG Medical College from January 2015 to December 2016 were included in this cross-sectional study and their details were recorded in case recording format after taking informed consent from their guardians. Admitted patients were excluded from the study. Statistical assessments were done by SPSS 16 software.

**Results:** Out of 500 neonates skin lesions were found in 366 (73.2%) patients. Physiological cutaneous lesions were most common, consisting 259 (70.7%) neonates. Out of the physiological lesions, benign transient lesions were seen in 163(44.6%) and birth marks in 138 (37.8%) cases, out of which 95 (25.9%) had papulo-pustular dermatoses being the most common followed by erythema toxicum in 48 (13.1%). Pigmentary birth marks 89 (24.5%) were most common among all the birth marks followed by Mongolian spots in 71 (19.4%). Pathological lesions were seen in 107 (29.3%) cases, of which nappy rash was detected in 65 (18.01%) cases. Term and male babies had higher incidence of skin lesions.

**KEYWORDS**

Neonates, Cutaneous lesions, Follow up clinic.

**INTRODUCTION:**

Skin is the largest external organ of the body which protects the internal organs, serves as anatomical barrier to infection, contributes to thermoregulation, contains insulating fats, excretes electrolytes and provides tactile sensory inputs<sup>1</sup>. In contrast to adults, the neonatal skin is thinner, delicate, has weaker intercellular attachments and produces fewer sweat and sebaceous secretions and above all is more susceptible to infections<sup>2</sup>. Coated with vernix caseosa, neonatal skin has antimicrobial properties which confers protection both intrauterine and postnatal<sup>3</sup>. In utero, baby's skin is well protected by amniotic fluid. After birth the baby's skin is vulnerable to develop a variety of physiological and pathological lesions like transient lesions, napkin dermatitis and related disorders, infective lesions, blisters and birth marks<sup>4</sup>. Neonatal dermatological conditions vary widely from transient physiological to grossly pathological ones<sup>5</sup>. Majority of neonatal skin lesions being physiological, transient and self-limiting need only reassurance in contrast to a few needing interventions<sup>6</sup>.

**RESULTS:**

Total 500 neonates were included in the study. Out of them skin lesions were found in 366 (73.2%) patients. Physiological cutaneous lesions were most common, consisting 259 (70.7%) neonates. Out of the physiological lesions, benign transient lesions were seen in 163 (44.6%) and birth marks in 138 (37.8%) cases. Out of benign transient lesions, 95 (25.9%) had papulo-pustular dermatoses being the most common followed by erythema toxicum in 48 (13.1%). Pigmentary birth marks 89 (24.5%) were most common among all the birth marks followed by Mongolian spots in 71 (19.4%). Pathological lesions were seen in 107 (29.3%) cases, of which nappy rash was detected in 65 (18.01%) cases. Term and male babies had higher incidence of skin lesions which are listed in Table 1. There were one case each of Incontinentia pigmenti, Hypomelanosis of Ito and Ashleaf macule (Table 1). Skin lesions were more frequent in term, males and in babies delivered normally (Table 2).

**Table 1: Distribution of cutaneous lesions in neonates (n=366)**

Item	Number	Percent (%)
Physiological lesions	259	70.7
Benign transient lesions of newborn	163	44.6

Erythema toxicum neonatorum	48	13.1
Acrocyanosis	8	2.16
Cutis marmorata	5	1.3
pustular dermatoses	95	25.9
Fordyce sport	13	3.5
Miliaria	40	10.9
Milia	21	5.7
Neonatal acne	27	7.3
Birth marks	138	37.8
Pigmentary birth marks	89	24.5
Mongolian spot	71	19.4
Congenital nevus	13	3.5
Vascular birth marks	26	7.2
Salmon patch	14	3.8
Haemangioma	9	2.4
Accessory nipple	6	1.6
Accessory tragus	8	2.1
Stork bite	3	0.08
Pathological lesions	107	29.3
Nappy Rash	65	18.01
Seborrheic dermatitis	30	8.2
Monilial dermatitis	7	1.9
Ichthyosis	2	0.5
Skin tag in the hand	4	1.09
Preauricular skin tag	3	0.8
Epidermolysis bullosae	5	1.3
Aplasia cutis	5	1.3
Suckling blisters	4	1.09
Ectodermal dysplasia	3	0.8
Portwine stain	3	0.8
Warts	2	0.5
Hypomelanosis of Ito	1	0.27
Incontinentia Pigmenti	1	0.27
Ashleaf macules	1	0.27
TOTAL	366	100

**Table 2: Other Parameters (n=500)**

Parameters	Number	Percent (%)
Term	346	69.2
Preterm	154	30.8

NVD	371	74.2
LSCS	129	25.8
Male	289	57.8
Female	211	42.2

### DISCUSSION:

Skin lesions in neonates are of parental concern. Though many of them are self limiting some need further workup. Different worldwide studies report rising trend of neonatal skin lesions. A study from Hospital Nursery of Sohag University reported that 240 neonates (40%) had neonatal skin lesions in contrast to our report of 73.2%<sup>7</sup>. It may be due to climatic and racial variations. Transient lesions were most common in our study seen in 44.6 % of all physiological skin lesions which is similar to a study by M. M. Shehab et al from Egypt<sup>8</sup>.

We found Papulo-pustular leion in 25.9% cases which is at par with the study by M. M. Shehab et al from Egypt<sup>8</sup>. Miliaria was found in 10.9% in our study which is comparable to the study by M. M. Shehab et al from Egypt<sup>7</sup>. Sachdeva et al reported Miliaria in 20.6% of neonates<sup>9</sup>.

Milia were noted in 5.7 % in our study which is at par with the study by study by M. M. Shehab et al from Egypt<sup>8</sup>.

Aplasia cutis and skin tags were noted in 1.09 % and skin tag in 1.5 % which is in contrast to reports by El-Moneim & El-Dawela (3.5 %) <sup>7</sup>.

Sucking blisters were found in 1.09% in our study as compared to 1.5 % by M. M. Shehab et al from Egypt<sup>8</sup> and Ferahbas et al<sup>10</sup> reporting 10 %. Mongolian spots were seen in 19.4% as compared to 20.5 % by M. M. Shehab et al from Egypt. This is in contrast to reports on Iranian neonates having 56%<sup>11</sup>.

Melanocytic nevi were detected in 3.5% cases similar to study by Chaithiraynon and Chunhras (2.4%)<sup>12</sup>.

We found Nappy rash in 18.01 % cases at par with M M Shehab<sup>8</sup> (15.2 %) and study by Javad<sup>13</sup> which may be due to hot humid weather and improper hygiene. All cases of moniliasis (1.9 %) were seen in preterm babies which is at par with Ferahbas et al<sup>10</sup>. Salmon patches, the most common vascular birth marks were seen in 3.8% cases which was at par with study by M M Shehaband El-Moneim & El-Dawela<sup>7</sup>.

### CONCLUSION:

Benign lesions are most common group of cutaneous manifestations. It is followed by birthmarks. Preventive conditions like napkin rash and contact dermatitis are commonest pathological lesions. Pediatricians, Neonatologists and Dermatologists should be aware of benign lesions not needing any treatment along with preventable causes of neonatal dermatitis.

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