

## Study of Varied Cutaneous Manifestations in Neonates

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### ABSTRACT

**Background:** The neonatal period is defined as the first 30 days of life. Neonatal skin diseases evolve much more rapidly than adult skin diseases. Many dermatologic diseases exhibit different manifestations in newborns, infants, and children. Some dermatoses are encountered only in neonates and infants and therefore require special attention. Obtaining a history and methods of clinical examination in infants and children differ from the approaches chosen for adults.

**Aims:** The present study was designed to study the various presentations of cutaneous manifestations in neonates attending or admitted in the tertiary hospital and to correlate the various parameters.

**Materials and Methods:** A total number of 52 neonates of age up to 30 days were included in the present study which were admitted in NICU or labor wards or who attended the Dermatology OPD in a tertiary care hospital.

**Results:** Out of total 52 neonates 29 were male while 23 female neonates were present. Male to female neonatal ratio in our study was 1.3:1. Among the physiological skin changes in neonates the Mongolian spots were the commonest presentation seen in 73% (n=38) neonates. Physiological scaling was encountered in 35% (n=18) of cases. Epstein pearls on hard palate was seen in 21% (n=11) of neonates. Milia and miliaria was seen in 17% (n=9) and 11% (n=6) respectively. Icterus as a part of physiological jaundice was seen in 21% (n=11). These neonates were on the phototherapy.

**KEYWORDS:** Neonates, Cutaneous, Mongolian Spot, Milia, Epstein Pearls.

### INTRODUCTION

After birth, the neonate's skin undergoes a series of changes in adaptation to the extrauterine environment. In utero, the skin of the fetus is protected by the vernix caseosa and is immersed in amniotic fluid. After birth, the vernix is wiped off, and the skin is exposed and adapts to the dry ambient air.<sup>1</sup> The skin changes in the neonates can be physiological or pathological which can be further classified as

- (1) Transient non-infective diseases,
- (2) Naevi and other developmental defects,
- (3) Infections,
- (4) Dermatitis,
- (5) Inherited disorders.<sup>2</sup>

#### Transient Dermatoses of the Neonate

Skin conditions encountered in newborns that tend to resolve by 30 days of age are considered to be transient. They are very common and many are expected in newborns.

#### Milia:

Milia are multiple pinpoint- to 1-mm papules representing benign, superficial keratin cysts. They are seen most commonly on the nose of infants and may be present in the oral cavity as well, where they are called Epstein's pearls.

#### Erythema Toxicum Neonatorum:

Erythema toxicum neonatorum (ETN) is an idiopathic, common condition seen in up to 75% of term newborns. It is rarely seen in premature infants. Blotchy erythematous macules 1–3 cm in diameter with a 1–4-mm central vesicle or pustule are seen in ETN. They usually begin at 24–48 hours of age.

#### Transient Neonatal Pustular Melanosis:

TNPM is an idiopathic pustular eruption of the newborn that heals with tiny brown-pigmented macules. It is less common than ETN and is more prevalent among newborns with darkly pigmented skin. Lesions are usually present at birth or shortly thereafter.

**Harlequin Color Change:**

Harlequin colour change (HCC) is defined as transient erythema involving one - half of the infant’s body with simultaneous blanching of the other side and a sharp demarcation on the midline.<sup>3</sup>

**Sucking Blisters:**

Sucking blisters may be present at birth as the result of intrauterine sucking, but are more commonly seen during the first weeks of life.

**Benign Cephalic Pustulosis:**

Neonatal acneiform facial lesions usually develop within the first 30 days of life and are estimated to occur in 50% of newborns. This benign eruption appears to be hormonally mediated and has been attributed to overgrowth of Malassezia sp.<sup>4</sup>

**Hair Loss In The Infant<sup>5</sup>:**

**Telogen Effluvium:**

The hair loss may be gradual or sudden, and may occur as soon as the first few days of life, with the telogen hairs shed by 3–4 months of age.

**Triangular Temporal Alopecia:**

Triangular temporal alopecia is a form of nonscarring hair loss noted at 2–5 years of age as a triangular, oval, or lancet-shaped area of alopecia at the frontotemporal scalp.

**Alopecia Areata:**

Alopecia areata occurs in all ages. All forms of alopecia areata occur in infants and children patchy, universalis.

**Birthmarks (Table 1)**

The two most common birthmarks are the nevus simplex and Mongolian spots.

**Nevus simplex** represents a capillary malformation of the skin. It occurs most commonly on the glabella, upper eyelids, and nuchal area.

**Mongolian spots**, which represent collections of dermal melanocytes, are seen in 80%–90% of infants of color but in only 5% of white infants.<sup>6</sup>

**Lymphangiomas:**

Both types of lymphatic malformations, microcystic (lymphangiomas) and macrocystic (cystic hygromas).

**Uncommon Dermatoses of the Neonate**

**Cutis Marmorata Telangiectatica Congenita (CMTC):**

CMTC is characterized by persistent coarse cutis marmorata, telangiectasia, and sometimes associated underlying cutaneous atrophy and ulceration.

**Subcutaneous Fat Necrosis of the Newborn:**

It is characterized by firm, circumscribed, reddish or purple subcutaneous nodules or plaques that appear over the back, cheeks, buttocks, arms, and thighs.

**Sclerema Neonatorum:**

Sclerema is diffuse hardening of the skin in a sick premature newborn that is now rare because of improved neonatal care. The onset is characteristically after 24 hours of age.

**Aplasia Cutis Congenita (ACC):**

ACC represents a failure of skin to fully develop, most often on the scalp, and less commonly elsewhere.

**Table 1: Common birthmarks in newborn.**

Common Birthmarks in the Newborn
Mongolian spots
Nevus simplex (nevus flammeus, salmon patch, “stork bite”)
Port-wine stain
Hemangioma of infancy (infantile hemangioma)
Epidermal nevus, including nevus sebaceus
Congenital nevocellular nevi,
Congenital melanocytic nevi
Nevus depigmentosus
Café-au-lait spots

**Table 2: Cutaneous Infections in Neonate**

Cutaneous Infections in the Neonate
Staphylococcal infections
Impetigo
Staphylococcal scalded-skin syndrome
Omphalitis
Breast abscess (due to Staphylococcus aureus and Gram-negative org)
Viral infections
Varicella
Herpes simplex virus
Fungal/candidal infections
Scabies

**AIM OF STUDY**

The present study was conducted to study the different cutaneous manifestation in neonates.

**MATERIALS AND METHODS**

Neonates upto 30 days of age attending the outpatient Department of Dermatology, indoor patients of Neonatal ICU and labor wards of a tertiary teaching institute were randomly selected. A total number of 52 patients were studied. Patients detailed history and clinical findings were noted and recorded in the standard proforma. Parents history pertaining to consanguinity and affected siblings were noted. Whenever it was necessary biopsy of the skin lesions was done for confirmation. Culture, KOH mount, Gram stain, Tzanck smear was performed wherever required.

**RESULTS**

Total 52 neonates were examined and detailed clinical examination was noted. Out of total 52 neonates 29 were male while 23 female neonates were present. Male to female neonate ratio in our study was 1.3:1 with male child preponderance. Out of 52 neonates 46 were full term born while 6 neonates were born preterm. The

weight of the babies ranged from 1.3 kg to 3.7 kg. Among the physiological skin changes in neonates the Mongolian spots were the commonest presentation seen in 73% (n=38) neonates. Amongst cases Mongolian spots were located in lumbosacral area 86%, followed by sacral and in one neonate the lesions were located on the shoulder area.

Physiological scaling was encountered in 35% (n=18) of cases. This scaling was more distributed over the flexural areas, palms and extremities. This feature was higher in the premature infants. Epstein pearls on hard palate was seen in 21% (n=11) of neonates. Milia and miliaria was seen in 17% (n=9) and 11% (n=6)

respectively. Icterus as a part of physiological jaundice was seen in 21% (n= 11). These neonates were on the phototherapy. Cradle cap pertaining to the seborrheic dermatitis of the scalp was seen in 6% (n= 3).

Erythema Toxicum Neonatorum was seen in 17% (n=9) of cases. The onset in maximum cases was seen in 5- 7 days after birth. Lanugo hair seen in 12% cases (n=7). Cutis marmorata in 2 cases. Among the cutaneous infections oral thrush was present in 5 cases, cutaneous candidiasis in 1 case. Umbilical discharge was present in 1 case. Among the vascular anomalies three case of salmon patch were present. Among pigmented conditions one case of café-au lait macule was present.

**Table 3: Comparison of cutaneous features with similar studies**

S. No.	Clinical presentation	No. of Cases	% Present Study	% Bryan Nobby et al <sup>2</sup>	% K Dash et al <sup>7</sup>
1	Mongolian Spots	38	73	68	89
2	Physiological scaling	18	35	72	15
3	Epstein pearls	11	21	57	38
4	Icterus	9	17	20	20
5	Milia	8	16	44	13
6	ETN	8	16	30	27
7	Miliaria	6	11	6	24
8	Salmon patch	3	5	23	-
9	Cradle cap	3	6	-	4
10	Cutis marmorata	2	3	43	1

## DISCUSSION

Male to female neonates were in a ratio of 1.3:1 in our study. In a similar other Indian study by K Dash et al<sup>7</sup> the ratio was 1:0.85. The commonest physiological condition found in our study was Mongolian spots 73% which is similar to the other Indian studies. From the study done by Jacobs A H et al<sup>8</sup> state that greater the degree of natural pigmentation higher is the incidence of Mongolian spots. Physiological peeling was seen amongst 35% of neonates, Epstein pearls in 21% and milia in 16% of neonates. They are expected findings in the newborn and resolve spontaneously. Physiological scaling was in higher side as compared to other studies. 17% of neonates had physiological jaundice with icterus and were on the phototherapy treatment.

ETN is present in 16% of neonates. Our finding was on lower side as compared to other Indian studies.<sup>2,7</sup> Maximum cases presented during 5-7 days after birth.

Incidence of cradle cap was in correlation with others studies. Table 3 shows the comparison chart of various cutaneous findings with other studies.

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