



## Original Research Article

## Clinical study of cutaneous lesions in neonates at a tertiary care centre

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## ABSTRACT

**Background:** Cutaneous problems in neonates have always been a significant part of paediatric dermatology. They range from physiological transient conditions at one end to serious pathological entities at the other.

**Aim and Objective:** To study the clinical pattern of various dermatoses in neonates at a tertiary care centre.

**Materials and Methods:** This is a hospital based cross-sectional observational study conducted at tertiary care centre. Total 100 neonates ( $\leq 28$  days old) having any kind of cutaneous lesion were included in the study. Detailed history, clinical examination was done in all neonates followed by recording each finding and their statistical analysis.

**Results:** In the 100 neonates analysed, 53 were females (53%) and 47 (%) were males. 15 patients were born preterm, 78 in term and 7 in post term. Most of the skin lesions were asymptomatic but only 16 were having symptomatic skin lesion. Skin lesions in the study were physiological in 70%, pathological in 20% and mixed in 10%.

**Conclusion:** Studying neonatal skin lesion is important to all dermatologists so that they are able to differentiate physiological and pathological conditions, thereby avoiding unnecessary therapy for neonates in circumstances not requiring any and also facilitating to allay undue anxiety among parents.

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## 1. Introduction

Dermatology problems in neonates have always been a significant part of paediatric dermatology.<sup>1,2</sup> Because of advances in neonatal care; premature infants are surviving in greater numbers and at earlier gestational ages than ever before.<sup>3–5</sup> This presents us with fresh challenges in understanding the pathophysiology and treatment of diseases specific to neonatal skin.<sup>2</sup> It also gives clue to unlocking the development of cutaneous maturation, structure, and functions of skin.<sup>2,3</sup> Great interest has focused on skin barrier function, both in preterm and full-term neonates, because of the evidence that both are at high risk of toxicity from topically applied substances.<sup>3,6,7</sup> Here we conducted a hospital based study to assess

various physiological and pathological cutaneous lesions in neonates.

## 2. Materials and Methods

It was a hospital based cross-sectional study conducted at a tertiary care centre. Aim of this study was to assess neonatal cutaneous lesions as physiological or pathological. The study was conducted during January 2018 to January 2019. Informed consent was taken from parents after being informed about the aim of the study. Neonates ( $\leq 28$  days old) with cutaneous lesions attending our hospital were taken into study. All cases were taken detailed history including age, sex, mode of delivery, birth weight, onset, and progress of cutaneous lesion and associated symptoms. Detailed cutaneous examination was done in all cases. Appropriate investigations were done wherever necessary.

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**Table 1:** Age wise distribution of cases

S. No	Age in days	No. of cases
1	1-7	43
2	8-14	21
3	15-21	18
4	22-28	18

### 3. Results

Total of 100 cases were included in the study, of which 47 were girls and 53 were boys. Age wise distribution of patients is mentioned in Table 1. Infant born before 37 weeks is called preterm, 37-42 weeks is called term and > 42 weeks is called post term. In our study, 15 patients were born preterm, 78 in term and 7 in post term. Low birth weight is defined as weight of the baby <2500 gm at the time of birth. In our study 15 patients were low birth weight. Out of 100 cases 86 born to non-consanguineous couple and 14 to consanguineous couple. Antenatal history was uneventful in 5 cases and eventful in 95 cases. Mode of delivery in 84 cases was normal and in 16 cases were caesarean section. Most of the skin lesions were asymptomatic but only 16 were having symptomatic skin lesion. Distribution of skin lesions in 100 neonates were depicted in table 2, of which physiological were 70%, pathological were 20% and mixed in 10%.

In our study most common cutaneous lesion was Mongolian spot in 58 (58%) followed by superficial desquamation in 27(27%), milia in 24(24%), sebaceous gland hyperplasia in 22(22%), scrotal pigmentation in 16 out of 53 male neonates, linea nigra in 12 (12%), erythema toxicum neonatorum in 11(11%), Epstein pearl 11(11%) and Lanugo hair in 11(11%) cases. Alopecia involving occipital area was noted in 8(8%) cases. Salmon patch was found in 7 (7%) cases commonly involving neck (85%) followed by face (15%). Cutis marmorata was seen in 02 (2%) cases and, transient neonatal pustulosis and congenital melanocytic nevus seen in 01(1%) each. Napkin dermatitis was most frequent dermatitis found in 8 (8%) neonates and followed by miliaria in 7 (7%). Perianal dermatitis was found in 3(3%) cases. Jaundice was found in 3 (3%) cases of which 2 were physiological and 1 was pathological. Neonatal varicella was found in 2(2%) cases. In both the cases mother had varicella in the third trimester of pregnancy. Seborrheic dermatitis and scabies was seen in 2 (2%) cases each.

### 4. Discussion

Mongolian spot are benign congenital birthmark presents on sacral region of many newborns. It typically disappears at 3 to 5 years of age. It can also be termed as congenital

dermal melanocytosis.<sup>8</sup> It was present in 58 (58%) cases as compared to 72% in Kulkarni et al.<sup>6</sup> study.

Erythema toxic neonatorum (ETN) is a common, acute self-limiting condition of term infants. I present within 48 hours of life.<sup>9</sup> Behera et al.<sup>5</sup> and Gudurpenu et al.<sup>7</sup> noted ETN in 6% and 9% of cases respectively. In our study it was noted in 11 (11%) of cases. Kulkarni et al.<sup>6</sup> noted higher incidence of ETN 25.2% cases in his study.

Physiological desquamation of newborn is benign superficial desquamation of skin usually occurs on hands, feet and ankles.<sup>10</sup> It was noted in 27% of cases as compared to 16% and 18% in Behera et al.<sup>5</sup> and Pandit et al.<sup>4</sup> study respectively.

Milia are 1-2mm globular papules caused by retention of keratin within the dermis.<sup>11</sup> Higher incidence 24 (24%) of milia was noted in our study as compared to 8% and 6.8% in Behra et al.<sup>5</sup> and Gudurpenu et al.<sup>7</sup> study respectively.

Sebaceous gland hyperplasia was noted in 22% of cases whereas Gudurpenu et al.<sup>7</sup> noted in 6.8% of cases in his study.

Epstein pearls are 1- 2 mm, creamy, white keratin cysts commonly seen at the midline at the junction of the hard and soft palate.<sup>12</sup> It was noted in 11 (11%) cases. Higher incidence (61%) of Epstein pearls was noted in Sachdeva et al. study.<sup>13</sup> Similar finding was noted in other studies.<sup>14-16</sup>

Lanugo is fine, soft, unpigmented hair that is often present in neonates. Neonatal occipital alopecia is a non-scarring, localized alopecia, which occurs temporarily on the occipital area of the scalp.<sup>17</sup> Lanugo hair and occipital alopecia was found in 11(11%) and 8(8%) of cases respectively. Sachdeva et al.<sup>13</sup> noted Lanugo and occipital alopecia in 14.4% and 18.8% cases respectively.

Salmon patch is a pink coloured patch believed to be composed of ectatic dermal capillaries that represent the persistence of fetal circulating patterns in the skin.<sup>18</sup> In present study it was noted over upper eyelid in 7% of cases. Behra et al.<sup>5</sup> and Padit et al.<sup>4</sup> noted in 10% and 2% cases respectively.

Vernix caseosa is a naturally occurring white coloured biofilm covering the skin of the fetus during the last trimester of pregnancy. In our study it was noted in 6 (6%) neonates. Pandi et al.<sup>4</sup> Behera et al.<sup>5</sup> and Gudurpenu et al.<sup>7</sup> noted in 11.3%, 4.5% and 0.5% respectively.

Cutis marmorata is a reticulated mottling of the skin that symmetrically involves the trunk and extremities.<sup>11</sup> Cutis marmorata was noted in 2% of cases. Pandit et al.<sup>4</sup> and Gudurpenu et al.<sup>7</sup> noted in 1.3% and 2.7% of cases respectively.

Congenital melanocytic nevi are benign nevomelanocytic proliferations present at birth.<sup>19</sup> It was seen in 1% of neonate compared to 0.7% and 0.8% cases in Pandit et al.<sup>4</sup> and Behera et al.<sup>5</sup> study respectively.

Transient pustular melanosis is a benign, self-limiting, non-infectious pustular eruption presenting 1 to 2 days of

age. It was noted in 1% of neonates in our study. Behera et al.<sup>5</sup> noted in 0.5% cases. Higher incidence (6.8%) was noted in Gudurpenu et al.<sup>7</sup> study.

Napkin dermatitis is an inflammatory dermatoses of the diaper region.<sup>7</sup> Higher incidence (8%) of napkin dermatitis was noted in our study compared to study by Gudurpenu et al.<sup>7</sup> and Pandit et al.<sup>4</sup>

Miliaria is a benign cutaneous manifestation due to the obstruction of the sweat ducts.<sup>7</sup> Lower incidence (7%) was noted in our study compared to other studies.<sup>4,5,20</sup>

Perianal dermatitis represents superficial inflammation of skin affecting perianal area. The incidence of perianal dermatitis in our study was almost similar to the report of Gudurpenu et al.<sup>7</sup> and lower than Dash et al.<sup>21</sup> study.

Incidence of physiological jaundice varies from 3.5% to 20.6%.<sup>6,15,21</sup> In our study icterus is found in 3% of neonates.

Neonatal Varicella is found in 2% of cases in our study. In both the cases mother had varicella in the third trimester of pregnancy. Haveri et al. noted similar finding in their study.<sup>22</sup>

Seborrheic dermatitis is found in 1(1%) case in our study. Incidence of seborrheic dermatitis is lower than the finding of Gudurpenu et al.<sup>7</sup> and Jawade et al.<sup>23</sup> study.

Scabies was found in 2% of cases and mother was having scabies in both cases.

All dermatologists should aware of cutaneous lesions in neonate. It is important to differentiate physiological and pathological skin conditions. In neonate physiological lesions outnumber pathological skin lesions.

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None.

## 6. Conflict of Interest

None.

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