Journal of Clinical & Experimental Dermatology Research

Asha et al., J Clin Exp Dermatol Res 2016, 7:5
DOI: 10.4172/2155-9554.1000370

Research Article Open Access

Clinical Study on Prevalence of Cutaneous Lesions in New Born Babies in India

Asha GS, Shilpa VK*, Ramesh M and Revathi TN

Department of Dermatology, Bangalore Medical College, India

***Corresponding author:** Shilpa Vinod K, Department of Dermatology, Victoria Hospital, Bangalore Medical College, Karnataka 560002, India, Tel: 091-9886244455; E-mail: shilpakvinod@gmail.com

Received date: July 30, 2016; **Accepted date:** August 28, 2016; **Published date:** September 02, 2016

Copyright: © 2016 Asha GS, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Background: Skin being the major organ of human body, any lesion on the newborn can cause concern and anxiety to parents. Many such lesions can be physiological and transient. There are very few reports in the literature regarding the cutaneous manifestations in newborns in India.

Aim: This study is undertaken to determine the prevalence and pattern of various skin lesions in neonates and to correlate the relationship between new born skin lesions to gestational age, birth weight, mode of delivery, sex and maternal factors.

Materials and methods: All new born delivered at a referral hospital between 2013-2015 were included for the study. Data regarding maternal age, illness, drugs, gestational age, mode of delivery, birth weight, sex of new born were noted. All the new born were clinically examined for skin lesions during their stay in hospital.

Results: Total of 1427 live births was included. Out of this 92.1% of newborns had skin lesions and 7.9% had no skin lesions. The incidence of single lesion was 25.4% and multiple in 66.5%. Common manifestations included mangolian spots, milia, ebstein pearls, erythema toxicum neonatorum. Our study showed increased incidence of mangolian spots, lanugo hairs and cutis marmorata in new-borns of mothers having illness and in preterms. Birth injuries were more in instrument assisted deliveries. The skin peeling and birth marks were more in posterms. However there was no difference in the manifestations between male and female babies.

Conclusion: Majority of the skin lesions are transient and physiological which does not require any treatment. Recognizing these transient lesions in new born will avoid unnecessary therapy to the new-borns and it will enable the paediatrician to allay parental concern and anxiety.

Keywords: Newborn; Dermatosis; Transient

Introduction

Newborn period is generally taken as the first 4 weeks of extra uterine life. The skin of newborn present with variety of lesions which may be transient, physiological or pathological and at times distinction between a pathological and physiological reaction is indistinct. But the majority of neonatal skin lesions are transient and self-limiting. However these conditions often are a cause of anxiety in parents. Hence a treating dermatologist should be aware of this wide variety of physiological and pathological conditions affecting new born skin.

Materials and Methods

All new-borns born in department of obstetrics and gynaecology, irrespective of gestational age and mode of delivery in one year were considered for study. Data was collected regarding the maternal age, gestational age, and maternal illness from mother. An informed consent was taken from mother. Each new born was examined till their stay in the hospital with careful examination of the entire skin surface including palms, soles, nails, genitalia and scalp under good light. The new-borns were classified according to maturity as preterm, term and post term. Newborns were classified into two groups' i.e. Weighing less than 2.5 kgs and greater than and equal to 2.5 kgs and mode of delivery of new-borns were recorded. The statistical software namely SPSS 11.0 and Systat 8.0 were used for the analysis of data.

Results

1427 Newborns born in one year were examined for skin lesions. Out of them 1313 (92.01%) newborns had skin lesions. The rest 114 (7.99%) newborns did not have any lesions. 743 were male and 684 were females. 678 (91.25%) males and 635 (92.83%) females had skin lesions. Out of 1313 new-borns 363 (27.65%) new-borns had single lesion and 950 (72.35%) had multiple skin lesions.

Incidence of skin lesions in relation to maternal age and maturity is given in Tables 1 and 2. There was no statistically significant difference in the number of babies having skin lesions in relation to maternal age and maturity of the baby. However there was difference in pattern of lesions with respect to maturity of babies.

Incidence of lesions in relation to gestational age of the baby is given in Table 2.

Out of 1427 mothers in the study group, 352 (24.67%) had some or the other illnesses during their pregnancy and 1075 (75.33%) were healthy mothers. Incidence of skin lesions in these group is given in Table 3.

Maternal age in years	Number	No and % of new-borns having the lesions
≤ 20	258	245 (94.96%)
21-25	706	654 (92.63%)
26-30	377	342 (90.71%)
31-35	77	70 (90.90%)
>35	9	8 (88.88%)
Total	1427	1313 (92.01%)

Table 1: Incidence of skin lesions in relation to maternal age.

Maturity	Number	%	No of newborns with lesions	%
Preterm	167	11.70	151	90.41
Term	1213	85.00	1120	92.33
Post term	47	3.29	42	89.36

Though there was no statistically significant difference in the incidence of skin lesions in both groups, some skin findings like congenital dermal melanocytosis (Mongolian spots), cutis marmorata were found more in babies born to mothers with illness during pregnancy.

Table 2: Incidence of lesions in relation to gestational age.

Maternal illness	Total No	%	No of newborn with lesions	%
Absent	1075	75.33	977	90.88
Present	352	24.67	336	95.45

Table 3: Incidence of skin lesions in relation to presence or absence of maternal illness.

Out of 1427 deliveries 816 (57.18%) were vaginal deliveries, among them 737 were normal, 32 were forceps assisted and 47 vacuum assisted. Skin lesions in these groups are given in Table 4. Though there was slight increase in the incidence of lesions in instrumental delivery it was not statistically significant.

Mode of delivery	No	%	No of newborn with lesions	%
Normal	737	51.65	745	91.3
Instrumental	79	5.54	74	93.67
Caesarean	611	42.82	568	92.96

Table 4: Incidence of skin lesions in relation to mode of delivery.

Out of 1427 new-borns 311 were low birth weight babies with 283 (91%) having skin lesions. 1116 babies were of normal weight out of them 1030 (92.29%) were having skin lesions. The various cutaneous lesions in relation to maternal illness, mode of delivery, maturity, birth weight and sex are given in Tables 5 and 6.

Skin lesion	Total n(%)	Maternal Illness		Mode of delivery			Maturity		
	1427	Absent n=1075	Present n=352	Normal n=737	Instrument n=79	LSCS n=611	Pre term	Term	Post term
congenital dermal melanocytosis	1065 (74.6)	755 (70.23)	310 (88.0)	536 (72.7)	58 (73.4)	471 (77.1)	122 (73.1)	910 (75.0)	33 (70.2)

Epstein Pearls	308 (21.6)	214 (19.91)	94 (26.7)	176 (23.9)	8 (10.1)	124 (20.3)	34 (20.4)	268 (22.1)	6 (12.8)
Milia	380 (26.7)	277 (25.77)	103 (29.3)	206 (27.9)	17 (21.5)	157 (25.7)	36 (21.6)	338 (27.9)	6 (12.8)
ETN	308 (21.6)	215 (20.00)	93 (26.4)	150 (20.4)	20 (25.3)	137 (22.4)	23 (13.8)	277 (22.8)	8 (17.0)
Cutis marmorata	54 (3.8)	25 (2.33)	29 (8.24)	23 (3.1)	5 (6.32)	28 (4.6)	25 (14.9)	29 (2.4)	-
Harelequin colour	4 (0.3)	3 (0.28)	1 (0.28)	2 (0.3)	-	2 (0.33)	1 (0.6)	3 (0.2)	-
Miliaria	25 (1.8)	19 (1.77)	6 (1.70)	16 (2.2)	3 (3.79)	6 (0.98)	3 (1.8)	21 (1.7)	1 (2.1)
Skin peeling	121 (8.5)	97 (9.02)	24 (6.82)	58 (7.9)	5 (6.32)	59 (9.65)	9 (5.4)	96 (7.9)	16 (34)
Perianal dermatitis	18 (1.3)	12 (1.12)	6 (1.7)	9 (1.2)	-	10 (1.63)	7 (4.2)	11 (0.9)	-
Pustular Melanosis	28 (1.9)	25 (2.33)	3 (0.85)	15 (2.0)	3 (3.79)	10 (1.63)	3 (1.8)	25 (2.1)	-
Birthmarks	149 (10.4)	112 (10.4)	37 (10.1)	68 (9.2)	8 (10.1)	72 (11.8)	13 (7.8)	127 (10.5)	9 (19.1)
Tuft of hair	5 (0.4)	4 (0.37)	1 (0.28)	1 (0.13)	1 (1.26)	2 (0.32)	1 (0.6)	4 (0.3)	-
Vascular birth mark	23 (1.6)	19 (1.77)	4 (1.14)	14 (1.9)	2 (2.53)	7 (1.1)	3 (1.8)	20 (1.6)	-
Cradle cap	15 (1.1)	10 (0.93)	5 (1.42)	7 (0.9)	1 (1.26)	5 (0.8)	2 (1.2)	12 (0.9)	1 (2.1)
Sacral dimple	61 (4.3)	41 (3.81)	20 (5.68)	34 (4.6)	4 (5.06)	25 (4.1)	14 (8.4)	46 (3.8)	1 (2.1)
Ichthyosis	20 (1.4)	16 (1.49)	4 (1.14)	8 (1.1)	2 (2.53)	10 (1.63)	2 (1.2)	14 (1.2)	4 (8.5)
Bullous disorders	6 (0.42)	3 (0.28)	3 (0.85)	1 (0.14)	-	5 (0.8)	1 (0.6)	5 (0.4)	-
Lanugo	121 (8.5)	32 (4.65)	43 (20.17)	61 (8.3)	4 (5.06)	56 (9.2)	110 (65.8)	11 (0.9)	-
Skin tag	10 (0.7)	8 (0.74)	2 (0.57)	5 (0.68)	1 (1.26)	4 (0.65)	-	10 (0.8)	-
Birth injury	31 (2.2)	25 (2.33)	6 (1.70)	11 (1.5)	15 (18.9)	5 (0.8)	3 (1.8)	27 (2.2)	1 (2.1)
Ear anomaly	11 (0.8)	10 (0.93)	1 (0.28)	4 (0.54)	1 (1.26)	6 (0.98)	2 (1.2)	9 (0.7)	-
Digital anomaly	4 (0.3)	4 (0.37)	-	2 (0.3)	-	2 (0.33)	-	4 (0.3)	-

Lip, mouth Anomaly	-	-	-	-	-	-	-	-	-
Genitourinary Anomaly	2 (0.14)	1 (0.09)	1 (0.28)	-	-	2 (0.33)	-	2 (0.2)	-
NT defects	3 (0.21)	3 (0.28)	-	2 (0.3)	-	1 (0.16)	2 (1.2)	1 (0.08)	-
Umbilical sepsis	3 (0.21)	2 (0.19)	1 (0.28)	3 (0.41)	-	-	1 (0.6)	1 (0.08)	1 (2.1)
Acne neonatorum	24 (1.7)	17 (1.58)	7 (1.99)	11 (1.5)	4 (5.06)	7 (1.14)	1 (0.6)	21 (1.7)	2 (2.1)
Hypertrichosis (localised)	8 (0.6)	7 (0.65)	1 (0.28)	5 (0.68)	1 (1.26)	3 (0.49)	-	8 (0.7)	-
No lesions	114 (7.9)	98 (9.12)	16 (4.55)	66 (8.9)	4 (5)	43 (7.03)	16 (9.6)	93 (7.7)	5 (10.6)

Table 5: The various cutaneous lesions in relation to maternal illness, mode of delivery and maturity.

Congenital dermal melanocytosis or Mongolian spots were the most common cutaneous finding in the present study with the incidence of 74.6%. There was statistically significant ($p<0.05$) increase in the incidence (88.07%) of Congenital dermal melanocytosis in babies born to mothers with maternal illness during pregnancy.

Skin lesion	Total n(%)	Birth weight		Sex	
	1427	<2.5Kgs	>2.5 Kgs	Male	Female
congenital dermal melanocytosis	1065 (74.6)	203 (65.25)	862 (77.24)	555 (74.56)	510 (74.70)
Epstein Pearls	308 (21.6)	58 (18.65)	250 (22.40)	173 (23.28)	135 (19.74)
Milia	380 (26.7)	74 (23.79)	306 (27.42)	209 (28.13)	171 (25.00)
ETN	308 (21.6)	80 (25.72)	228 (20.42)	155 (20.86)	153 (22.37)
Cutis marmorata	54 (3.8)	31 (9.97)	23 (2.06)	32 (4.31)	22 (3.22)
Harelequin colour	4 (0.3)	2 (0.64)	2 (0.18)	3 (0.40)	1 (0.15)
Miliaria	25 (1.8)	4 (1.29)	21 (1.88)	13 (1.75)	12 (1.75)
Skin peeling	121 (8.5)	23 (7.40)	98 (8.78)	76 (10.23)	45 (6.58)
Perianal dermatitis	18 (1.3)	11 (3.54)	8 (0.72)	11 (1.48)	7 (1.02)
Pustular Melanosis	28 (1.9)	6 (1.93)	22 (1.97)	13 (1.75)	15 (2.19)
Birthmarks	149	33	116	73	76

	(10.4)	(10.61)	(10.39)	(9.83)	(11.11)
Tuft of hair	5 (0.4)	1 (0.32)	4 (0.36)	2 (0.27)	3 (0.44)
Vascular birth mark	23 (1.6)	4 (1.29)	19 (1.70)	10 (1.35)	13 (1.90)
Cradle cap	15 (1.1)	5 (1.61)	10 (0.90)	8 (1.08)	7 (1.02)
Sacral dimple	61 (4.3)	19 (6.11)	42 (3.76)	30 (4.04)	31 (4.53)
Ichthyosis	20 (1.4)	4 (1.29)	16 (1.43)	14 (1.88)	6 (0.88)
Bullous disorders	6 (0.42)	1 (0.32)	5 (0.45)	3 (0.40)	3 (0.44)
Lanugo	121 (8.5)	101 (32.47)	20 (1.79)	56 (7.50)	65 (9.50)
Skin tag	10 (0.7)	2 (0.64)	8 (0.72)	5 (0.67)	5 (0.73)
Ear anomaly	11 (0.8)	2 (0.64)	9 (0.81)	8 (1.08)	5 (0.73)
Digital anomaly	4 (0.3)	2 (0.64)	2 (0.18)	3 (0.40)	1 (0.15)
Lip, mouth Anomaly	-	-	-	-	-
Genitourinary Anomaly	2 (0.14)	-	2 (0.18)	1 (0.13)	1 (0.15)
NT defects	3 (0.21)	2 (0.64)	1 (0.09)	1 (0.13)	2 (0.29)
Umbilical sepsis	3 (0.21)	-	3 (0.27)	2 (0.27)	1 (0.15)
Acne neonatorum	24 (1.7)	4 (1.29)	20 (1.79)	9 (1.21)	15 (5.19)
Hypertrichosis (localised)	8 (0.6)	-	8 (0.72)	4 (0.54)	4 (0.58)
No lesions	114 (7.9)	28 (9)	86 (7.71)	65 (8.7)	49 (7.2)

Table 6: The various cutaneous lesions in relation to birth weight and sex.

Increased incidence of lanugo hairs were observed in babies born to mothers with maternal illness during pregnancy which was statistically significant.

Statistically significant increase in the incidence of cutis marmorata was observed in preterm, low birth babies and also babies born to mothers with maternal illness during pregnancy.

Physiologic desquamation and pigmented nevus were found more commonly ($p<.05$) in post term babies. Perianal dermatitis was more commonly seen in babies with low birth weight.

Discussion

The prevalence of dermatoses in the newborn varies between 79.4% and 100% [1,2]. According to Ahsan et al. in their study involving 1000

neonates the overall incidence of skin lesions was 94% [3]. According to a study done by Baruah et al. in a south Indian city the incidence of cutaneous lesions was 93%. In the present study total of 1427 neonates were enrolled for the study. Among them 1313 i.e. 92.01% of them had skin manifestation.

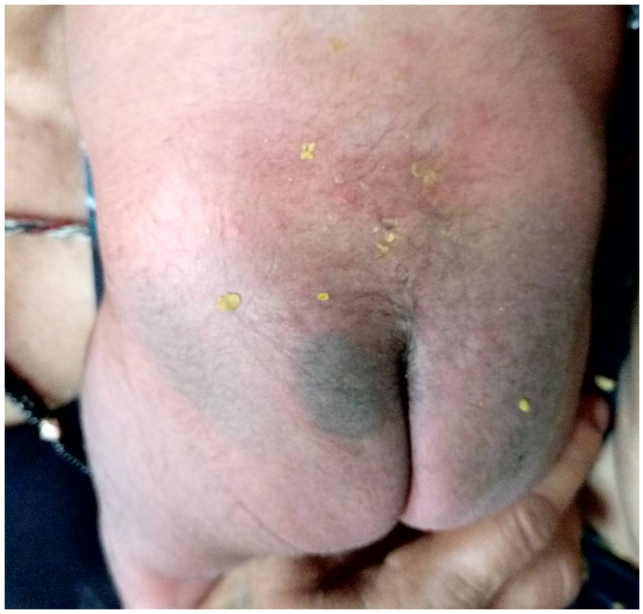

Figure1: Multiple bluish grey macules over the back.

In the present study 352 (24.57%) neonates had maternal illness during pregnancy. The significant illnesses were hypertension (154), anaemia (37), diabetes mellitus (35), UTI (24), vaginitis (23), heart disease (15), asthma (14), reproductive tract infections (13), and other miscellaneous conditions.

Figure 2: White discrete papules of milia.

In the present study 51.65% had normal delivery, 5.53% had instrumental assisted delivery and 42.82% had caesarean section. Out of these 91.3%, 93.67% and 92.96% had skin lesions respectively.

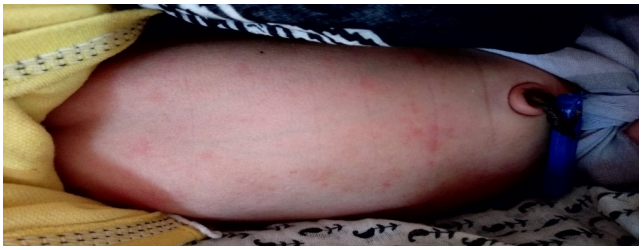

Figure 3: Tiny pustules over erythematous base over the trunk Erythema toxicum neonatorum.

In a study by Nanda et al. [4] it was 58.18%, 16.60, and 25.22% for normal delivery; instrumental assisted delivery and caesarean section respectively. This study is comparable to Nanda et al. study where there is increased incidence of skin lesions in caesarean section group. Kulkarni et al. in their study found skin lesions in 86.9% of full term, 8.6% of preterm and 5% in post term new-borns [5]. In our study also 85.3% of full term, 11.5% of preterm and 3.1% in post term new-born's had skin lesions.

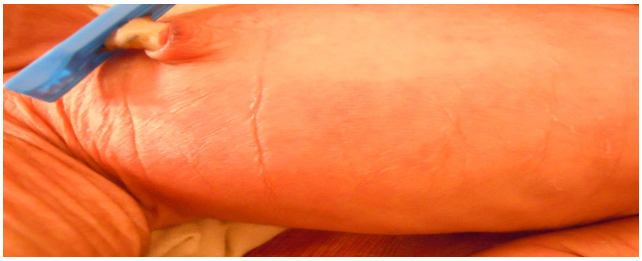

Figure 4: Erythema in the dependant position with line of demarcation from normal looking skin. Harlequin color change.

Nobby et al. [6] found an incidence of skin lesion in 52.4% of males and 47.6% of female new-borns whereas Baruah et al. found incidence of skin lesions to be 55% and 45% for male and females respectively. The present study also showed 51.64% and 48.36 % had skin lesions in males and females respectively. The incidence of Mongolian spot in various study are Sachdeva et al. [7] 60.2%, Mishra et al. [8] 72%, Sareli et al. [9] 81.5% in blacks. According to sachdeva et al. mangolian spots were seen more commonly in males and more among term babies. A higher incidence was observed in multipara and in babies with more birth weight. There was no relation to maternal illness or mode of delivery [7].

In our study the incidence of congenital dermal melanocytosis (Figure 1) was 74.6%. It was also observed that the incidence of congenital dermal melanocytosis was more in neonates with maternal illness (88.07%) as compared to new-borns of healthy mothers (70.23%). Incidence was also more in new-borns weighing more than 2.5 kgs. Similar observation was also made by Kulkarni et al. also. However there was no difference in their incidence with respect to mode of delivery, maturity of the new born or with sex.

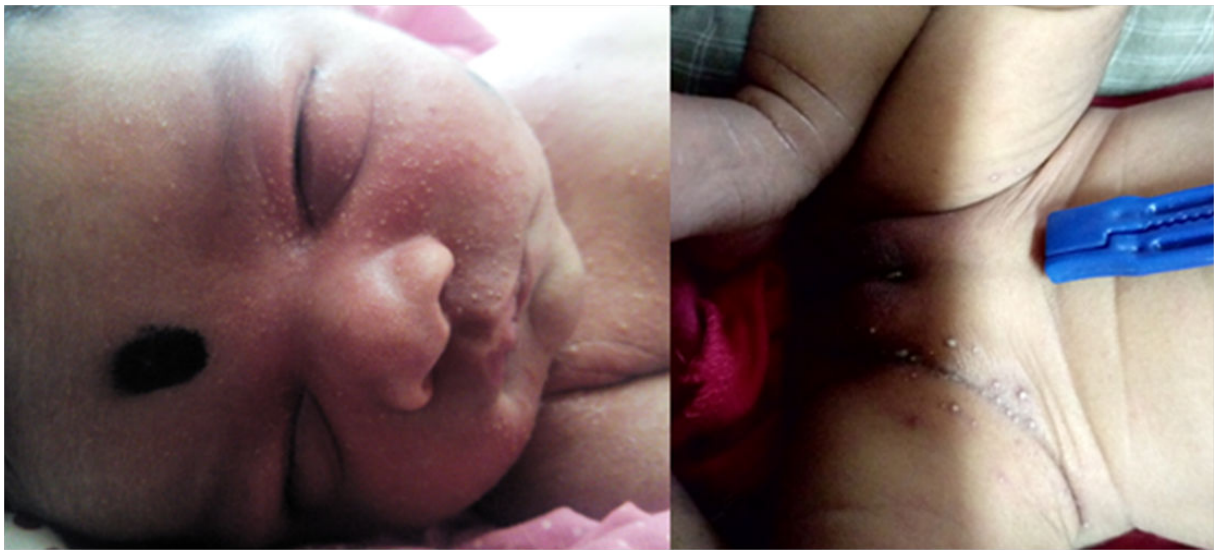

Figure 5: Discrete vesicles and pustules of Miliaria crystallina on face and Miliaria pustulosa with discrete pustules in the groin.

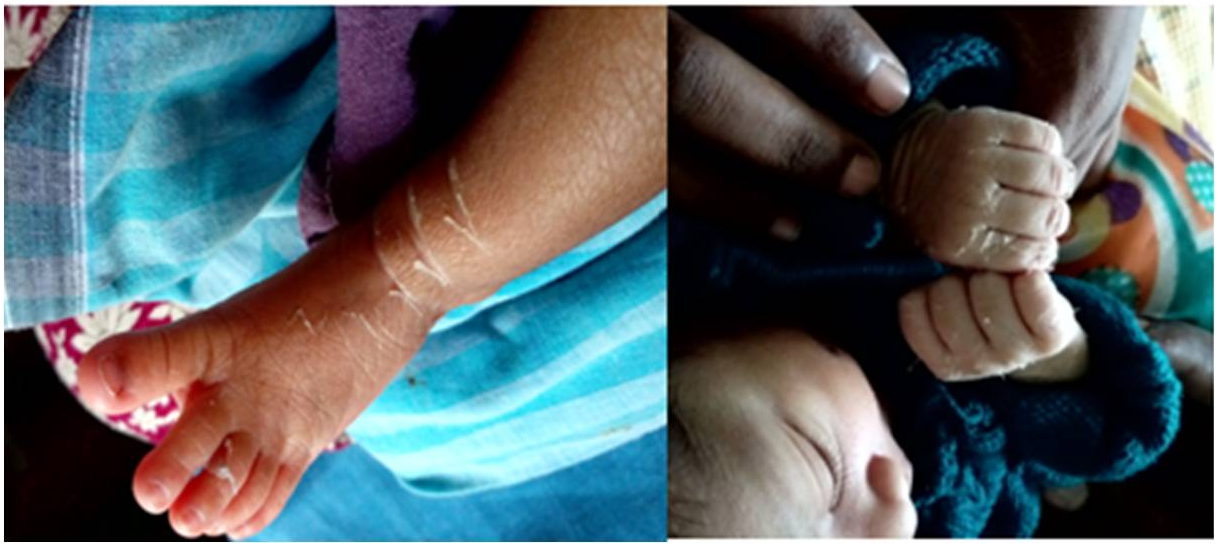

Figure 6: Physiological peeling of skin in extremities.

Microscopically, dermal melanocytes have been found in the foetus by the age of 3 months and macroscopically by the age of 7 months [10]. Melanocytes are derived from melanoblasts that arise from neural crest cells and migrate dorsolaterally between the mesodermal and the ectodermal layers to reach the basal layer of epidermis and hair follicle. Melanocytes are present in dermis of the embryos, at the beginning of 10th week of gestation, and after 20th week, no melanocytes are found in the dermis [11]. This is attributed both to the migration of melanocytes to epidermis and their clearance by macrophages [12]. Failure of these mechanisms results in MS. Maternal illness might have resulted in failure of these mechanisms with increased incidence in our study.

Lanugo is the downy hair on the body of a foetus or new born baby. Lanugo has a preponderance to occur in preterm babies. In the presence study there is statistically significant increase in the incidence lanugo in new born babies with maternal illness, premature babies and low birth weight babies similar to earlier studies [4,13].

Chulabhom et al. [14] observed 3.5% of new-borns had cutis marmorata in their study. Cutis marmorata was observed in 3.8% of the cases. Its incidence was 8.24% in newborn of mother having illness as compared to new-borns with healthy mothers (2.33%) which were statistically significant. Also the incidence was high in preterms (14.9%) as compared with term (2.4%) and Post term (0%) new-borns the reason being preterm are more prone for temperature variation due to prematurity. It is also more in newborn with birth weight<than 2.5

kgs (9.97) as compared with new-borns with birth weight >2.5kgs (2.06%). Cutis marmorata is thought to be an exaggerated vasomotor response to hypothermia and immaturity of autonomic nervous system facilitates its occurrence [15].

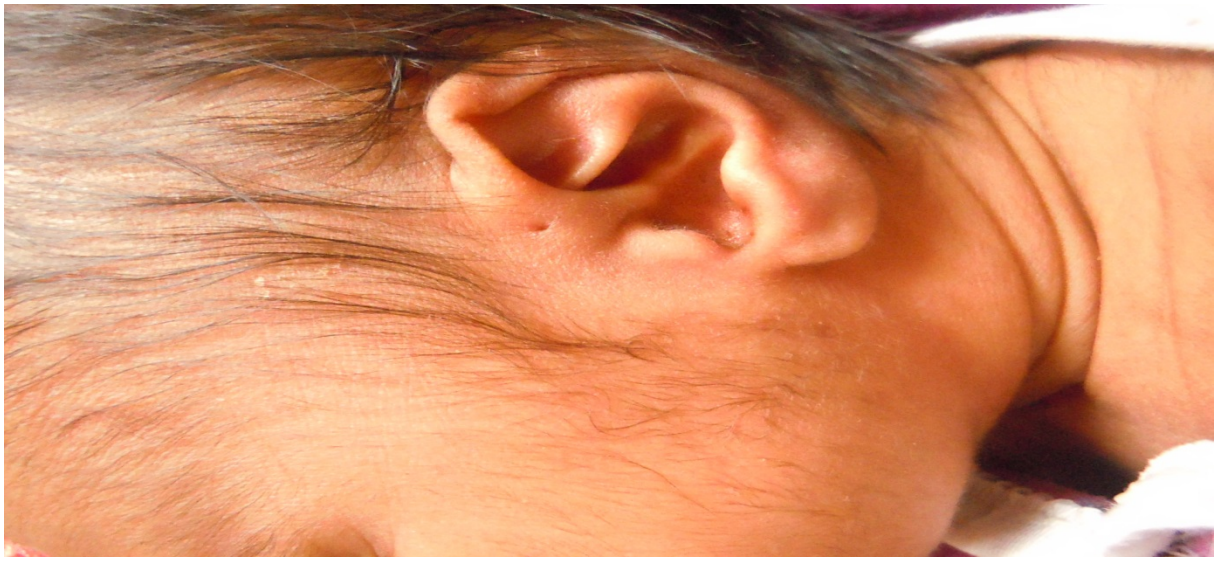

Figure 7: Pre auricular sinus in a newborn.

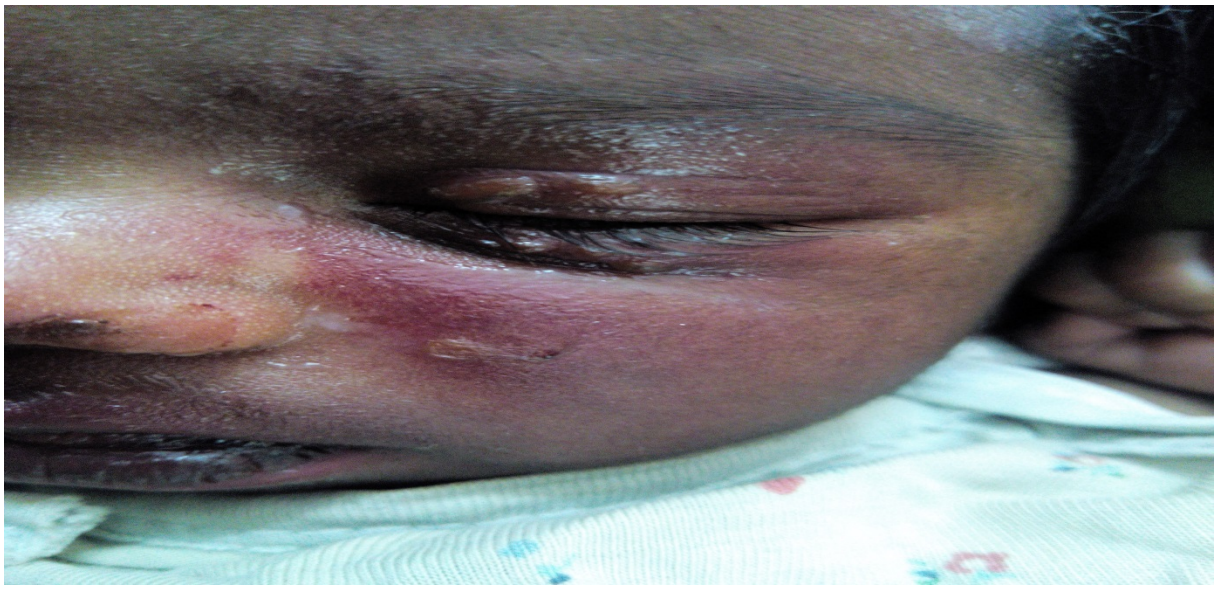

Figure 8: Hematoma with blistering in a baby with face presentation.

It is a normal physiologic response to ambient temperature changes; accentuates with decreased temperature and improves with rewarming. It is postulated to be caused by increased sympathetic tone with delayed vasodilatation in response to a flux in temperature resulting in dilatation of capillaries and small venules [16]. In the presence study there is statistically significant increase in the incidence of cutis marmorata in new born babies with maternal illness, premature babies and low birth weight babies as the immaturity of autonomic nervous system facilitates its occurrence.

Desquamation of neonatal skin is the most common finding of neonatal period. Post maturity in the neonate leads to increased desquamation as in the present study. The pathophysiology is unknown. Scaling is most prominent on the hands, ankles and feed in term infants. In post-terms it may be more generalized and accompanied by other cutaneous sings of posterm including absence of vernix, long nails and hair and decreased subcutaneous fat [17]. Increased incidence of perianal dermatitis in low birth weight babies the present study may be attributed to impaired barrier function of the skin in neonates.

Figure 9: Fine lanugo hairs on face.

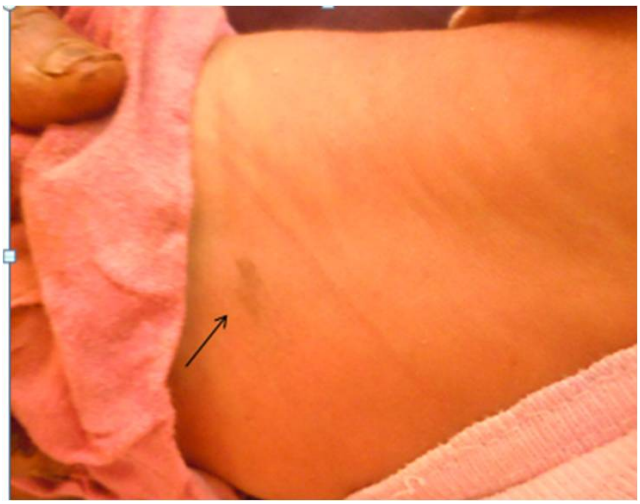

Figure 10: Nevus on the trunk.

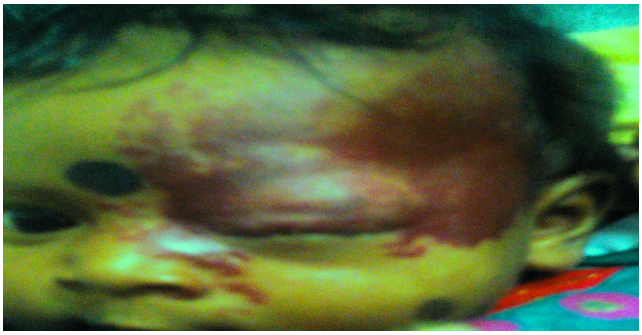

Figure 11: Hemangioma on the face.

Though there was statistically significant increase in the incidence of melanocytic nevi was found in post term infants no reasons can be attributed for it. The reported incidence of Epstein pearl is varied in different studies from 43.8% by Nanda et al. to 90.5% by Mishra et al. In the present study it was observed in 21.6% of cases with slight increased incidence in new-borns born to mothers with illness during pregnancy. Milia are small white, benign, superficial keratinous cysts. The incidence of milia in our study was comparable to that observed by other Indian workers. A higher incidence was seen in term babies and in babies weighing more than 2.5 kg, delivered vaginally, which has also been noted by other workers. Kulkarni et al. have shown the incidence of milia to be 26.2% which is similar to our study i.e. 26.7%.

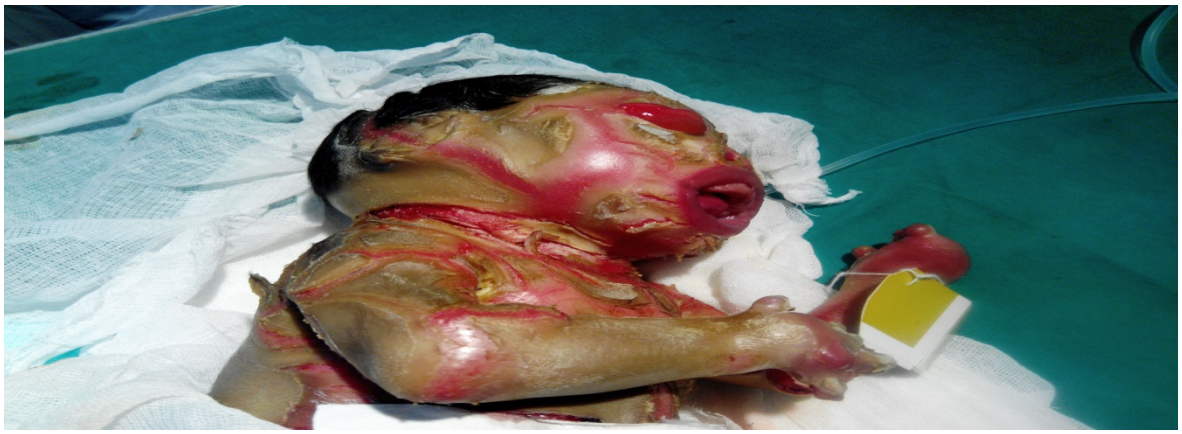

Figure 12: Harlequin Icthyosis.

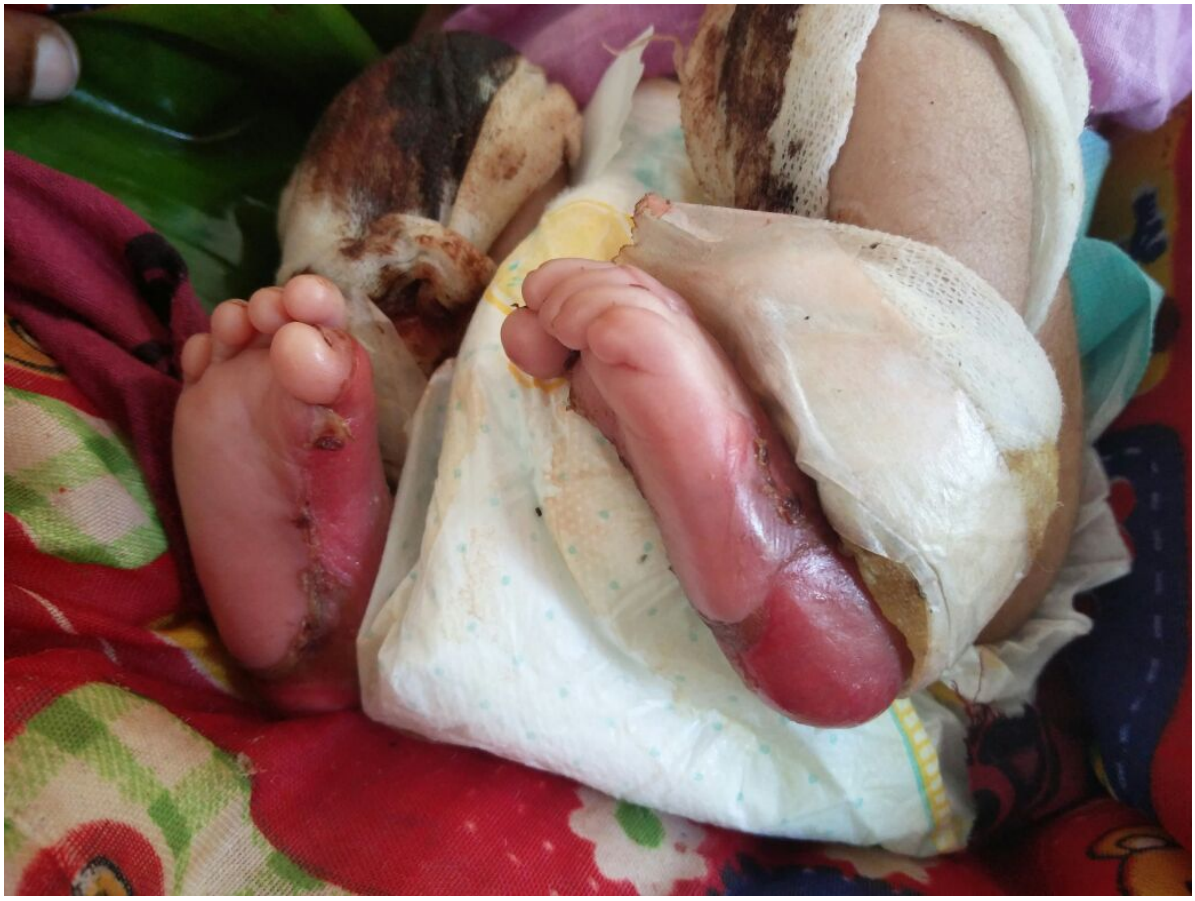

Figure 13: Epidermolysis bullosa with raw erosions on bilateral foot.

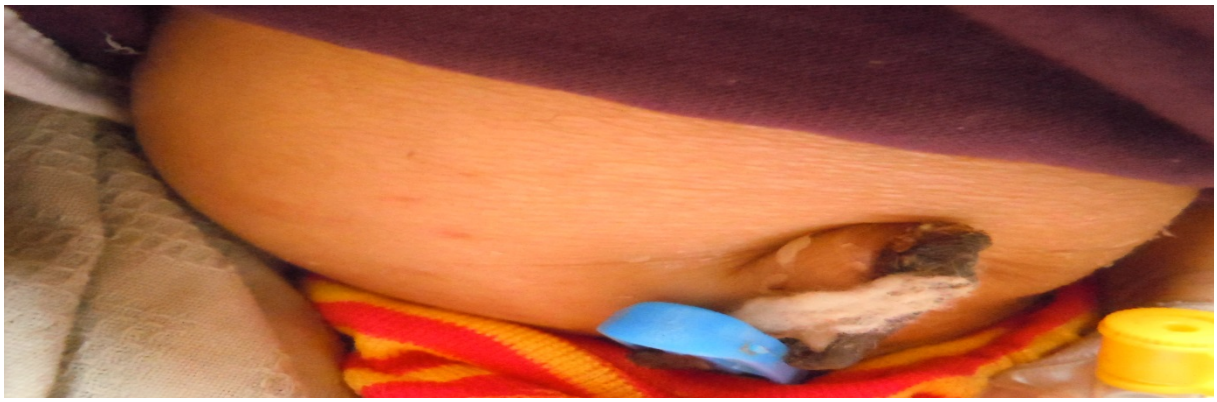

Figure14: Infected umbilical stump.

Incidence of milia (Figure 2) is increased in term babies (27.9%) as compared to preterm (21.6%) and post term (12.8%). Kulkarni et al. and Baruah also have observed maximum incidence of milia in term new-borns.

Erythema toxicum neonatorum (ETN) (Figure 3) was present in 21.6% of new-borns which is comparable to Nanda et al. (20.6%) and Kulkarni et al. (25.2%). The present study showed low incidence (0.3%) of harlequin colour change (Figure 4). Miliaria (Figure 5) was seen in 1.8% of new-borns. Physiological skin peeling (Figure 6) was more frequently seen in post term new-borns (34%). Griffith has stated that peeling occurs with increasing gestational age [11]. It was also seen that physiological peeling (87.8%) was more in new-borns weighing more than 2.5 kgs.

Perianal dermatitis was observed in 18 (1.3%) new-borns with higher incidence in preterm new-borns due to immaturity of the skin. Transient neonatal pustular melanosis was seen in 28 (1.95%) cases which is comparable to kulkarni et al. (2.6%). Congenital anomalies were seen in 1.4% cases which were of digital (4-0.3%), ear (11-0.8%) (Figure 7) genitourinary (2-0.14%) and neural tube defect (3-0.21%). Birth injuries (Figure 8) were seen in 2.2% cases more in instrumental assisted deliveries (18.98%). Lanugo hairs (Figure 9) were observed more frequently in preterm (65.8%) and new-borns born to mother with illness (20.17%). The other conditions observed in this study include birth mark (10.4%) (Figure 10), tuft of hair (0.4%), vascular nevi (1.6%) (Figure 11), cradle cap (1.1%), ichthyosis (1.4%) (Figure 12), bullous disorders (0.42%) (Figure 13), skin tag (0.7%), umbilical sepsis (Figure 14) (1.4%), localized hypetrichosis (0.6%), acne neonatorum (1.7%).

The transient lesions include congenital dermal melanocytosis, epstein pearls, milia, ETN, cutis marmorata, Harelequin colour change, miliaria, transient neonatal pustulosis, physiological skin peeling, acne neonatorum, lanugo. Mongolian spots are rarely seen after the age of 6 years. However persistence of Mongolian spots have been reported in association with Hurler's disease and followed by GM1 gangliosidosis [1]. Mucolipidosis, Niemann-Pick disease and mannosidosis [18]. However certain lesions in new-borns are of clinical significance which requires further evaluation and management. Bullous lesions in neonates needs to be differentiated from transient suction blisters and evaluated to rule out conditions like epidermolysis bullosa, bullous icthyosiform erythroderma, neonatal pemphigus.

Persistent cutis marmorata which does not improve with warming may be indicative of cutis marmorata telangiectasia congenita.

Physiologic desquamation should be differentiated from ichthyosis vulgaris and continual peeling skin syndrome. Persistence of scaling beyond the first few weeks, combined with family history, distribution and appearance of scale lead to the correct diagnosis. Sometimes biopsy is required [17].

Conclusion

Neonatal skin manifestations include wide range physiological and pathological conditions. Recognition and understanding of these conditions will help dermatologist to reduce parental concern and anxiety and to initiate further evaluation and treatment where ever it is necessary.

References

1. Pereira LB, Gontijo B, Silva CM (2007) Dermatoses neonatais. An Bras Dermatol 76:505-37.
2. Baruah CM, Bhat V, Bhargava R, Garg RB, Ku (1991) Prevalence of dermatoses in the neonates in Pondicherry. Indian J Dermatol Venereal Leprol 57: 25-28.
3. Ahsan U, Zaman T, Rashid T, Jahangir M (2010) Cutaneous manifestations in 1000 Pakistani newborns. J Pak Assco Dermatol 20: 199-205.
4. Nanda A, Kaur S, Bhakoo ON, Dhall K (1989) Survey of cutaneous lesions in Indian newborns. Pediatr Dermatol 6: 39-42.
5. Kulkarni ML, Singh R (1996) Normal variants of skin in neonates. Indian J Dermatol Venereol Leprol 62: 83-86.
6. Nobbay B, Chakrabarty N (1992) Cutaneous manifestations in the new born. Indian J Dermatol Venereol Leprol 58:69-72.
7. Sachdeva M, Kaur S, Nagpal M, Dewan SP (2002) Cutaneous lesions in new born. Indian J Dermatol Venereol Leprol 68: 334-337.
8. Mishra PC, Mathur GP, Mathur S, Singh YD, Sharma D, et al. (1992) Normal anatomic variants in the new born. Indian Pediatr 58: 69-72.
9. Saraeli T, Kenny Jr, Scott RB (1963) Common skin disorders in the new born Negro infant. Pediatr 62: 358-362.
10. Kikuchi I (1982) What is a Mongolian spot? Int J Dermatol 21: 131-133.
11. Leung AK, Kao CP, Leung AA (2005) Persistent Mongolian spots in Chinese adults. New-borns Int J Dermatol 44: 43-45.
12. Leung AK, Robson WL (2008) Superimposed Mongolian spots. New-borns Pediatr Dermatol 25: 233-235.
13. Monteagudo B, Labandeira J, León-Muiños E, Carballeira I, Cabanillas M, et al. (2011) Frequency of birthmarks and transient skin lesions in new-borns according to maternal factors (diseases, drugs, dietary supplements, and tobacco). Indian J Dermatol Venereol Leprol 77: 535.
14. Pruksachatkunakom C, Duarte AM, Schachner LA (1999) Skin lesions in newborns. International Pediatric 14: 28-31.
15. Serdaroglu S, Çakil B (2008) Physiologic Skin Findings of Newborn. J Turk Acad Dermatol 2: 82401
16. Bayliss Mallory S, Bree A, Chern P (2005) Illustrated Manual of Pediatric Dermatology Diagnosis and Management. 1st Ed. Abingdon, Oxon, Taylor and Francis 9-33.
17. Taieb A, Boralevi F (2006) Common Transient neonatal dermatoses. Textbook of Pediatric Dermatology. Eds. Harper J, Oranje A, Prose N. 2th ed. Oxford, Blackwell Publ. 55-66. Wagner AM, Hansen RC (1995) Neonatal skin and skin disorders. Pediatric Dermatology. Eds. Schachner LA, Hansen RC. 2nd Ed. New York, Churchill Livingstone Inc. 263-347.
18. Gupta D, Thappa DM (2013) Mongolian spots. New-borns Indian J Dermatol Venereol Leprol 79: 469-478.