

Transient Cutaneous Lesions within First 72 Hours after Birth: A Clinical Study

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Abstract: Introduction: Transient Cutaneous lesions in neonates not only cause concern for family but also for Doctors. They vary from region to region. They frequently start within first 72 hrs after birth. Aims: The study was designed to identify dermatoses within first 72 hours after birth and to report their incidence in local region. Materials and Methods: A hospital based cross sectional observational study of 100 neonates in Chigateri General Hospital and Bapuji Hospital attached to J.J.M. Medical College between March 2016 and July 2016. Results: Transient Cutaneous lesions observed in the order of frequency were: Mongolian spot (82%), Sebaceous Gland Hyperplasia (45%), Epstein pearls (35%), Milia (30%), Erythema Toxicum Neonatorum (19%), Physiological Scaling (12%), Miliaria (5%), Genital hyperpigmentation (5%), Acne Neonatorum (3%), Transient Neonatal Pustular Melanosis (3%) and Cradle cap (2%). Conclusion: The transient cutaneous lesions are common in neonates particularly Mongolian spots, Sebaceous gland hyperplasia, Epstein pearls, and Milia. Most of neonates have multiple transient cutaneous lesions which cause apprehension in family; so a careful evaluation is needed to avoid unnecessary therapeutic interventions.

Keywords: Neonatal dermatoses, physiological, transient

1. Introduction

The neonatal period is the first 4 weeks of extra-uterine life. The skin of the neonate differs from adult in several ways. The thickness of newborn skin is 40% to 60% of that of adult skin. It has weaker intercellular attachment and produces lesser amount of sweat.

The skin of a neonate plays a pivotal role in transition from an aqueous to an air dominant environment by providing mechanical protection and assisting thermoregulation, immune-surveillance and fluid balance. Cutaneous lesions are commonly seen in the neonatal period and exhibit inconsistency from the skin lesions of an adult.

Skin diseases in neonates that begin to resolve or even completely resolve within 30 days of age are considered transient cutaneous diseases. Transient Cutaneous lesions in neonates not only cause concern for Parents but also for Doctors. They frequently start within first 72 hours after birth. Their incidence varies from region to region.

The spectrum of dermatological manifestations during neonatal period varies from transient self-limiting conditions to serious dermatoses requiring specific therapies, genetic counseling and family planning. But majorities of the newborn cutaneous lesions are usually physiological, transient and self limited and thus require no therapy. Therefore it is important to be aware of the transient cutaneous lesions in newborn and differentiate these from other serious conditions which will help avoid unnecessary therapy to the neonates and the parents can be assured of good prognosis of these skin manifestations.

Aims

The study was designed to identify dermatoses within first 72 hours after birth and to report their incidence in local region.

2. Materials and Methods

The study was hospital based observational cross-sectional study of all neonates who were examined from March 2016 and July 2016 at post natal wards of District Chigateri General Hospital and Bapuji Hospital, attached to J. J. M. Medical College, Davangere.

Inclusion Criteria

- Term neonates from 0 to 3 days of age.
- Birth weight from 2.5 to 3.5 kgs.
- Delivered through vagina and lower segment caesarean section.

Exclusion Criteria

- Those neonates weighing less than 2.5 kgs or more than 3.5 kgs.
- Admitted in NICU ward.
- Pre term and Post term neonates.
- Immunocompromised neonates.

A detailed history of the neonates age, sex, maturity, birth weight, significant maternal history and mode of delivery was elicited. General physical and systemic examinations of all neonates were undertaken. An exhaustive dermatological examination was conducted to record physiological manifestations in neonatal skin.

3. Results

Out of 100 neonates:

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- 62 were male and 48 were female;
- Day 1 neonates were 42, Day 2 neonates were 31 and Day 3 neonates were 27;
- 65 of neonates were vaginally born, and 35 of neonates were born by cesarean section.

Transient Cutaneous lesions observed in order of frequency were: [Chart 1] Mongolian spot (82%), Sebaceous Gland Hyperplasia (45%), Epstein pearls (35%), Milia (30%), Erythema Toxicum Neonatorum (19%), Physiological Scaling (12%), Miliaria (5%), Genital hyperpigmentation (5%), Acne Neonatorum (3%), Transient Neonatal Pustular Melanosis (3%) and Cradle cap (2%).

4. Discussion

Transient Cutaneous lesions are common among neonates. They depend on various factors. The incidence and pattern of Transient Cutaneous lesions in the neonates in this study group is similar to the findings of other authors.

Among the various cutaneous disorders the most common skin manifestation noted was Mongolian spots [Figure 1] in 82 neonates. Majority were found over lumbosacral region (81%) and in neonates born to multiparous women. The incidence of Mongolian spots reported varied from 60.2% to 93.5% in various studies ^{[1] [2] [3] [4] [5] [6]}. Dermal melanosis or Mongolian spots are slaty, bruiseiform macules, present commonly on the back or buttocks, consequent to intradermally trapped melanocytes. These usually fade by 2 years ^[8].

Sebaceous gland hyperplasia [Figure 2] seen in 45% of cases is comparable with the result of Nobby et al. ^[2]. It occurs as a manifestation of maternal androgen stimulation. It was seen more commonly in babies delivered by normal vaginal route, more in neonates born to multiparous women.

Epstein pearls were seen in 35% of neonates, with the commonest site of location being midline of palate. The similar incidence has been noted in a study conducted by Dash et al. ^[6]. These protein filled cysts appear as whitish yellow nodules on the gums and palate, disappearing by second week ^[8].

Milia were seen in 30% of neonates. This is approximately comparable to the incidence reported in various studies ^{[1] [3] [5]}. Milia are 1 to 2 mm pearly white or yellow papules caused by retention of keratin within the dermis ^[7]. These are tiny epidermoid cysts due to stimulation by maternal androgens in utero ^[8]. These were seen more commonly in neonates born to multiparous women.

Erythema toxicum neonatorum was seen in 19% of neonates, similar to previous studies conducted ^{[1] [5]}. It was seen within 48 hrs of life, most commonly in neonates delivered from cesarean section. Typical lesions consist of erythematous, 2 to 3 mm macules and papules that evolve into pustules. Each pustule is surrounded by a blotchy area of erythema, leading to what is classically described as a "flea-bitten" appearance. Lesions usually occur on the face, trunk, and proximal extremities. Palms and soles are not involved ^[7].

Physiological Scaling or Superficial Cutaneous desquamation [Figure 3] was seen in 12% of neonates, similar to previous studies conducted ^{[5] [6]}. It commences acral usually on first day, generalizes by eighth day ^[8]. It was significantly higher among neonates delivered from cesarean section.

The number of neonates with miliaria was 5% which is comparable with the previous studies ^{[2] [5]}. A higher incidence was found in neonates born to multiparous women and neonates delivered from cesarean section. Miliaria results from sweat retention caused by partial closure of eccrine structures, resulting from immaturity of skin structures ^[7].

Among epidermal pigmentary changes, Genital hyperpigmentation was seen in 5% of neonates, similar to incidence in study conducted by Gorur et al. ^[5]. It has been postulated to be a response to the maternal and placental hormones that enter the total circulation. Among these hormones, estrogen and progesterone have been reported to exert a melanocytic stimulating effect which also causes darkening of linea alba in pregnant women.

Acne Neonatorum was seen in 3% of neonates, which varied from 0.2% to 5.4% in various studies ^{[1] [2]}. It typically consists of closed comedones on the forehead, nose, and cheeks, although other locations are possible. It is thought to result from stimulation of sebaceous glands by maternal or infant androgens ^[7].

Transient Neonatal Pustular Melanosis was seen in 3% of neonates, which varied from 0.07% to 2.6% in various studies ^{[2] [3] [5]}. The pigmented macules within the vesicopustules are unique to this condition. In addition, these lesions rupture easily, leaving a collarette of scale and a pigmented macule that fades over three to four weeks ^[7].

Seborrheic dermatitis of the scalp or cradle cap was seen in 2% of neonates, which is nearing to 4% in a study conducted by Dash et al. ^[6]. It is characterized by erythema and greasy scales; scaling predominates on the scalp. It is self-limited, responds to treatment ^[7].

5. Conclusion

The transient cutaneous lesions are common in neonates particularly mongolian spots, sebaceous gland hyperplasia, epstein pearls, and milia. Most of the neonates have multiple transient cutaneous lesions within 72 hours after birth which can be overlooked or may cause apprehension in Parents and Doctors. The appreciation of normal phenomena and their differentiation from the more significant cutaneous disorders of the neonate is critical. Hence a careful evaluation and observation for the next six months is necessary; treated and reassured accordingly.

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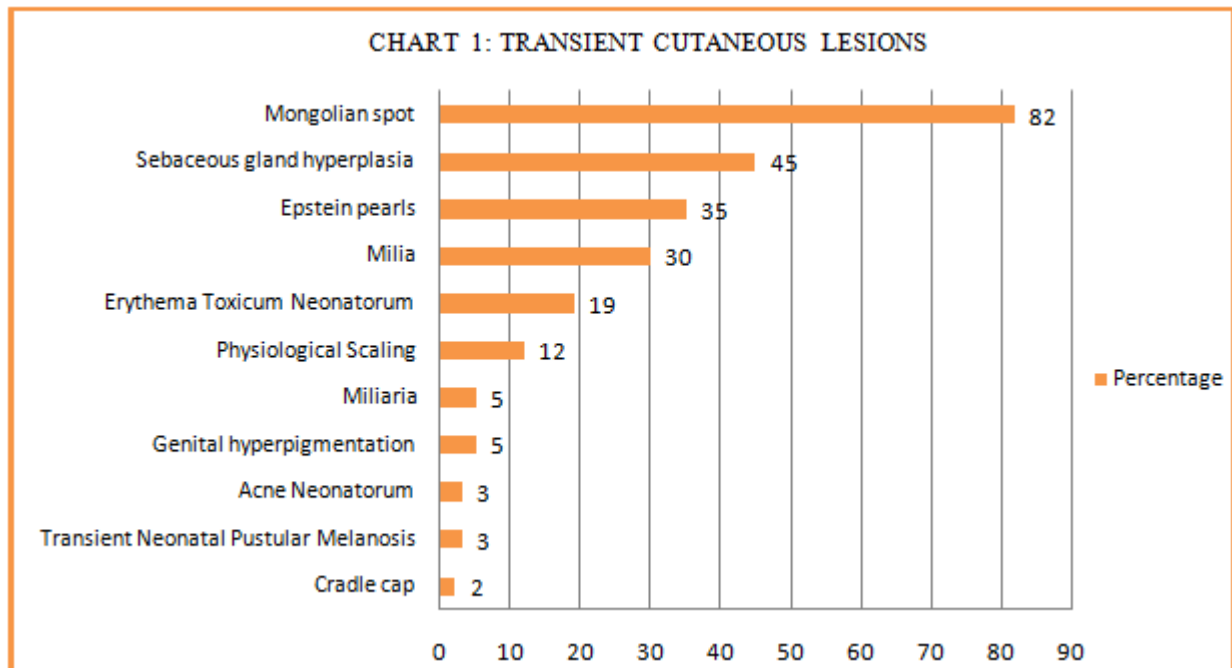


Figure 1: Mongolian Spot



Figure 2: Sebaceous Gland Hyperplasia



Figure 3: Physiological Scaling