Dermatopathies in the Early Neonatal Period at The Regional Hospital of Ica and the Augusto Hernández Hospital, 2022

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Abstrac

The purpose of the study was to establish the differences in the diagnosis of dermatopathies in the neonatal period in two hospitals in the Ica Region, aspects such as demographic, ethnic and obstetrics have been related to the increased incidence of dermatosis, despite its high prevalence. , several of them are not diagnosed by the professionals responsible for the clinical examination of the newborn. The study corresponds to the comparative design, of the quantitative approach, positivist paradigm, of the substantive basic type, the sample made up of 1382 records of dermatopathies of newborns of the early period in the Regional Hospital of Ica 1098 and in the Augusto Hérnandez Hospital 284, said record is performed with the observation sheet submitted to content validity by expert judgment that allowed the evaluation of dermatopathies, The descriptive results differentiating the dermatoses and inferential results demonstrating the greater presence or prevalence of dermatoptaties of general commitment, local commitment, vascular and pigmentary.

Keywords: Neonates, dermatopathies of general involvement, local involvement, vascular, pigmentary

1. Introduction

The different dermatopathies present during the neonatal period are transient since they usually resolve during the first days or weeks of life. The neonatal phase comprises the first 28 days of extrauterine life in which important adaptive mechanisms are permanently studied. This period is divided into early (first seven days of life) and late (from the seventh day to the 28th day); the former is the most important in the adaptation of the neonatal skin [1,2]. After birth, there is an active process of structural and functional skin adaptation that culminates after the first year of life, where the neonatal skin shows anatomical, physiological and histological factors (thinning of the layers, biochemical composition that alters the pH and melanocytic and glandular immaturity) that make it susceptible to develop dermatopathies [3,4]. These dermatoses are among the most recurrent consultations in neonatology (about 80% of patients), with factors associated with their incidence such as gestational age, sex, type of delivery and ethnicity [5]. This is the reason for the need to conduct studies to clarify the scenario in order to generate strategies to identify dermatopathies.

Despite a high prevalence, many dermatopathies are not usually diagnosed in the newborn, so it is important that, in addition to dermatologists, pediatricians and neonatologists, professionals dedicated to the initial care of the newborn, are able to identify them correctly [5]. According to the office of epidemiology and environmental health in one of the hospitals of Ica, approximately 3000 newborns are treated annually in this hospital; therefore, it is an important center for the study of dermatoses [9]. However, to date, the institution lacks studies on this population, which generates a deficit of information

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to know the epidemiological profile of dermatopathies. If this problem is not solved early, certain dermatopathies would escape the clinical eye of the personnel involved in the care of the newborn, which by default would cause problems with the relatives, since they could argue that they were not notified at any time about the presence of any dermatosis in their children. The importance of the present investigation derives from the above, which will contribute to the epidemiological profile of the dermatopathologies recorded in the clinical records and will serve to provide recommendations for their correct identification.

Dermatopathologies in the early neonatal period.

Set of pathologies affecting the dermis and epidermis during the first 7 days of life of the neonate [6], as well as pathological conditions involving the skin [7]. This period is characterized by adaptation to extrauterine life, presenting physiological changes from a liquid uterine environment to a dry external environment [8]. During this stage, dermatological conditions usually occur due to the particularities of the neonatal skin, which may be physiological lesions resulting from the immaturity of the neonatal skin that resolve within a few days or due to lesions that require a different therapy; hence the importance of identifying them with certainty [9,10].

Dermatopathies of general involvement

Vernix caseosa. A whitish substance of complex membranous structure, with a viscous consistency formed by water (80%), proteins (10%) and the rest by lipids such as free fatty acids, ceramides and lipids (mostly synthesized by the anteroposterior and dorsoventral fetal sebaceous glands, mainly in the last three months of pregnancy); it usually covers a large part of the neonate's body surface, most frequently present in the newborn at term [11]. Due to its lipid content, this substance is hydrophobic and protects the skin against excessive exposure to water during the development of the stratum corneum. It is functional during the fetal transition from the intrauterine to the extrauterine environment, which includes lubrication during birth, barrier function preventing water loss, thermoregulation, innate immunity and proper intestinal development [12].

Lanugo is a fine, thin, soft and unpigmented hair present in most fetuses and neonates. Its exaggerated presence on the neonatal body surface may indicate an underlying pathology. Various cell types and molecular processes catalyze the development of lanugo [13]. In the event that lanugo is associated with other diseases, a more extensive systemic study including complete blood count, complete metabolic profile and the search for tumor markers indicative of teratoma is urgent [14].

Epidermolytic ichthyosis. A condition known as Ichthyosiform erythroderma or epidermolytic hyperkeratosis, characterized as an autosomal dominant disorder of keratinization caused by mutations in the KRT1 and KRT10 genes. An upper epidermal area with hyperkeratosis and vacuolar degeneration is usually observed in addition to fragile blistering skin with and erythroderma from birth. Due to the presence of widespread blistering and erosions it is commonly confused with epidermolysis bullosa [15]. Due to a clinical pattern of diverse lesions and great systemic involvement, it requires histopathologic confirmation to adequately direct therapy. Over the years, blisters become infrequent and appear only at trauma sites; while other patients may develop a sequela dermatopathy, evidenced as a thickened and wrinkled scale predominantly in flexor areas or as palmoplantar keratoderma [16].

Physiologic desquamation. It is evidenced as superficial desquamation present in most newborns in the first week of life, frequently localized limited to upper and lower limbs and ankles within the first two days of birth that may spread in a progressive generalized form during the first two weeks [17]. The generalized form requires differential diagnosis with other ichthyoses such as hypohidrotic ectodermal dysplasia to avoid unnecessary examinations and improve anxiety in relatives as it usually resolves within the first month of life [18].

Erythema toxicum neonatorum. Highly recurrent dermatosis in most neonatal populations. Formerly called erythema populata or erythema dyspepsia, it usually appears in the first two days of life and is associated as a reaction to meconium impregnated in the skin of the neonate. It usually presents diverse patterns in the lesions such as wheals, papules, erythema and pustules; however, it is common to find micropustules and papules of yellowish hue with erythematous halo, which may resolve spontaneously in the first two weeks of life. Despite its frequency, the exact pathophysiological aspects that give rise to it are unknown [19,20].

Miliaria. Known as heat or sweat rash, it is a transient skin disorder caused by internal blockage of the eccrine gland duct, which, according to the level of duct blockage, can be differentiated from the clinical and histopathological point of view [20,21]. Such a condition is usually common in very diaphoretic neonates from areas with warm and humid climates. Three different types of: (a) sudamen or miliaria crystallina, usually affects 7% of neonates, having higher incidence within the first two weeks of life where small vesicles of 1 or 2 mm can be visualized present mainly on head, neck, trunk; (b) miliaria rubra, is the most common miliaria that can be observed between the first three weeks of life of the newborn as erythematous papules and vesicles that can generate pain, pruritus and inflammation at neck, armpit and groin level with minimal follicular involvement that differentiates it from a folliculitis and; (c) miliaria profunda, rarely seen in neonates but usually frequent in adults with recurrent episodes of miliaria rubra or exposed to tropical climates, evidenced by erythematous papules with skin-like

tonalities, which usually progressively revert [23].

Dermatopathies of local involvement

Milia. It is evidenced as whitish micropapules located at the level of the cheeks and nose, whose etiology is associated with retention of keratin and sebaceous material in hair follicles. Histopathological examination shows small cysts in the infundibulum showing granular layered stratified squamous epithelium. Most lesions resolve spontaneously in the first weeks of life [24].

Sebaceous hyperplasia. Small papule-like lesions, some yellowish and others whitish (1 to 2 mm) present from birth, located on the nose and upper lip that gradually involute in the first weeks of extrauterine life. Pathophysiologically they result from the increase in volume of a sebaceous gland. Profuse and eruptive forms have been described to be associated with autosomal dominant inheritance [25].

Neonatal cephalic pustulosis. This presents as a cutaneous eruption, especially on the cheeks, of multiple inflammatory pustules whose pathophysiology is associated with maternal and endogenous androgens; it is regularly observed in 20% of neonates from the third week and sometimes in the first days of life. In severe cases, the skin may be affected by mycosis of the species Malassezia spp, but no relationship between the severe form of the disease and positive culture has yet been demonstrated [40]. Clinically, in most cases, it resolves spontaneously within four months without scarring [25].

Diaper dermatitis. It is the dermatitis with a considerable recurrence (20%) associated with the diaper, the most common cause being infection, but it can also occur due to [26]. It comprises erythema, papules, desquamation and erosions (at the level of the thighs, allergies buttocks, suprapubic area) that can occur due to infection by Candida spp showing erosions and ulcerations [27]. It can also be caused by infection due to the presence of Staphylococcus aureus generating large and fragile pustules and blisters; while, in cases caused by Staphylococcus pyogenes, erythematous halos associated with skin folds are evidenced [28].

Seborrheic dermatitis. It is included in the spectrum of the most common dermatitis in neonates that may be associated with the fungus Malassezia spp [10]. It is characterized by scaly papules on the scalp, face and body folds and in areas associated with a large number of sebaceous glands. The presence of a "cradle cap" in the first two weeks of life is indicative of a yellowish scaling seborrheic dermatitis on the scalp, which may be spontaneous in the first year of life [29]. Generalized cases may occur and may cover part of the trunk, abdomen, pubis and groin and in some cases as a harmatomad dermal rash [30].

Oral inclusion cysts. Known as neonatal palatal cysts, they are small and keratinized and present at the oral mucosal level (approximately 90% of cases) described as small, consistent, yellowish and opaque lesions adjacent to the mid-palatine raphe and lacking mucous glands; they do not progress in size over time [31]. They are usually referred to as "Epstein's pearls" when they appear on the palate, and as "Bohn's nodulations" on the vestibular or lingual surface of the alveolar ridge; they resolve within a few months of their appearance [32].

Rape cysts. Pathophysiologically, they are generated by an abnormal development of the genital folds that appear as a cyst, usually solitary of about 1 cm, It is rare at the level of the prepuce, part of the penis and prepuce, which sometimes requires surgical removal when it increases in volume or is infected [33].

Suction blisters. They usually present as ovoid, ovoid-shaped, thick-walled, sterile fluid-containing blisters that require direct observation of non-inflammatory, oval-shaped, thick-walled, non-inflammatory, sterile fluid-containing blisters on the radial or dorsal aspect of the wrists for an accurate diagnosis [34]. In certain clinical cases they usually resolve in the first few weeks [35].

Aplasia cutis congenita. Among the causes are genetic defects in prenatal skin development, which is infrequent; but it is usually observed as a solitary lesion most of the time at the perimetric level of the scalp [36]. There are six variants of this dermatopathy which may be genetic or congenital in origin and, although most cases resolve spontaneously, atypical lesions may occur which could lead to neonatal mortality [37].

Nevus sebaceous. Known as "organoid nevus" or "sebaceous nevus of Jadassohn" that occurs at the level of sebaceous glands and hair follicles; it usually manifests as a circular, oval or linear lesion with orange-yellowish coloration (due to epidermal hyperplasia) and located on the scalp; these lesions usually grow exaggeratedly in childhood or puberty [38]. During the pathologic evolution, the thickness increases and the smooth surface becomes rough due to hormonal changes that occur during puberty, so the treatment has a therapeutic approach [39].

Epidermal nevus. These are benign, non-cancerous growths (hamartoma) of the skin, cutaneous mosaicism type (composed of various epidermal cells and structures: keratinocytes, sebaceous glands, myocytes, hair follicles, eccrine and apocrine glands), present at birth in most cases or developing in early childhood. Certain lesions show considerable adnexal components (organoid); on the other hand, those showing differentiation (mainly epidermal) are called non-organoid or keratinocytic nevi [40]. Initially, they usually appear as patch-like, subtle, linear lesions and/or thin plaques or warty, colored or united, brownish or skin-toned papules that, at puberty, tend to thicken and darken showing a linear type of distribution called "Blaschko's line" [41].

Vascular dermatopathies

Simple nevus. It usually appears as single or multiple reddish to pinkish macules or patches in 50% of neonates at the level of the glabella, eyelid or nape

of the neck, and to a lesser extent on the back, scalp, nose or lips, so it is often called "angel's kiss", "stork's mark" or "salmon patch". Over the years, it may regress, with lesions at the nape of the neck taking much longer to disappear [42].

Nevus flammeus. Known as "port-wine stain" it is the second most frequent congenital vascular malformation with diverse location; present in 0.1% to 0.2% of neonates as a patch-like lesion of intense red to purple tone (due to ectatic venules and capillaries in the dermis). This dermatopathy usually increases with age, causing the lesion to become nodular or hypertrophic [43]. This dermatopathy is associated with an inheritable somatic mutation called Sturge Weber syndrome (GNAQ genes: 9q21.2) that is evidenced as an inheritable neurocutaneous disorder [43, 44].

Cutis marmorata. A dermatopathy manifested by a persistent erythematous, macule-like, reticulated reddish to dark red, veiny reticulated lesion with telangiectatic areas due to a very rare capillary malformation that is usually present at birth. To date, about 300 cases have been reported [45]. The most common forms are shown on the scalp, face, trunk and extremities; while the focal pattern affects mucous membranes as well as palms, hands and feet. In most cases, improvement occurs during the first years of life [46].

Plethora. Dermatopathy known as "physiologic flushing", clinically, generalized reddening of the skin is observed, which disappears as hemoglobin titers decrease since neonates usually present higher levels of hemoglobin in the first weeks of life [47].

Acrocyanosis. It is quite common in neonates, especially in premature infants, in whom it manifests blue tones at the acral surface level including lips, hands and feet due to an increase in vasoconstriction of these areas when exposed to low temperature but that reverts with an increase in temperature. Although it is very common, it is rarely described in medical reports on neonates and is therefore a cause for concern for parents [5].

Nevus anemicus. A type of vascular birthmark or hypopigmented patch that can manifest from birth or become more prominent with age; due to increased vascular reactivity to catecholamines in focal areas of the skin. Despite being considered as isolated findings, they can be associated with tuberous sclerosis complex and cases of neurofibromatosis type 1, so it is useful to diagnose them early and correctly [10].

Depigmented nevus. Rare congenital hypomelanosis called "acromic nevus" present in both genders and all races; its differential diagnosis is useful, especially in cases of "nevus anemicus", vitiligo, indeterminate leprosy or Fitzpatrick's patches [48]. It usually presents as lesions resembling sparsely pigmented, serrated-edged spots of a stationary nature, which in most cases regress spontaneously. In some cases, there may be manifestations of anxiety in patients, requiring emotional and family support [49].

Congenital hemangioma. It usually presents as benign vascular tumors of rare frequency, which manifest as exophytic masses or plaques of various shades (purple, red, pale red) that are usually located at the level of the head, neck or extremities. Two varieties have been identified: (a) congenital hemangiomas, which can involute rapidly, and (b) congenital hemangiomas, which are unable to involute. There may also be a variant called partially involuntary that may present characteristics of the previous types. Only a few cases require treatment, and they are usually aesthetic [50].

Pigmentary dermatopathies

Congenital dermal melanocytosis. Also called "Mongolian spot" it is the most common pigmented dermatopathy in neonates, visible as a highly pigmented patch of grayish, brownish or blue-greenish color with irregular border in the area of the sacrum to buttocks mainly and also on shoulders and, rarely, on the face, head or surface of the flexor limbs. Regarding prevalence, it usually presents marked ethnic differences, where about 90% occurs in Asians, more than 60% in blacks, more than 50% in Hispanics and less than 10% in Caucasians [51]. It is benign and usually disappears by the first or second year of age and by six to ten years of age most of these spots have disappeared; but in 3% of cases, it may remain until adulthood in extra-sacral areas, which is why a differential diagnosis with respect to other dermal melanocytes (blue, Ota or Ito nevi) is required [52].

Transient hyperpigmentation. This is a type of transient benign dermatopathy in the neonate that has been little reported in the literature and manifests with sparse pigmented areas that, in the case of dark-skinned neonates, are usually observed on the genitals, axillae and lower abdomen; also, as hyperpigmented areas in abdominal folds, knees and legs that usually involute in the first year of life, although there are not many reports on adequate identification [53,54].

Melanocytic nevi. A type of congenital skin lesion (present at birth) or acquired during infancy called "common infantile skin moles", frequent in 1% to 3% of neonates in the first years of life [55]. Two pathologic forms can occur: neurocutaneous melanoma and melanosis which are usually small, irregular dark to black patches that require regular skin monitoring to prevent complications [56].

Café-au-lait spot. This is an autosomal dominant inherited dermatopathy; it presents as hyperpigmented macula-like lesions of various shades of brown that can manifest at birth or appear in the early years (on the trunk and/or extremities) and can also increase in size with age [57]. There are two forms of manifestation, where the first one is the most common presenting delimited and regular margins; while the second one has irregular margins and larger size than the first one being called "California coast" and it is also associated with cases of neurofibromatosis 1 (NF1) and related conditions in 95% of patients [58].

2. Methodology

The research was approached from a positivist perspective, quantitative approach, basic type according to purpose and objective; according to the collection of information and occurrence of events, it corresponds to the retrospective type since the data collected are from the past analyzed in the present, observational type due to the treatment of the variable dermatopathies that, in this opportunity, was not manipulated and transversal due to the collection of information from a subject in a single moment, descriptive level. The sample consisted of 1382 records of dermatopathies of neonates in the early period; From the Regional Hospital of Ica, there were 1098 and from the Augusto Hernandez Hospital, 284, said record was made with the observation card supported by the documentary observation technique, the mentioned instrument was submitted to content validity by expert judgment that allowed the identification of dematopathies of general compromise, local compromise, vascular and pigmentary considered as dimensions with twenty-two dermatopathies observed, an instrument submitted to content validity by expert judgment among physicians, pediatricians and dematologists.

3. Results

Table 1. Dermatopathologies during the early neonatal period in the Regional Hospital of Ica and the Augusto Hernandez Hospital.

Dermatopathies	Regional Hospital of Ica		Augusto Hernández Hospital	
	Frequency	Porcentage	Frequency	Porcentage
General commitment	727	66,2%	150	52,8%
Local involvement	220	20,0%	46	16,2%
Vascular	121	11,0%	81	28,5%
Pigmented	30	2,7%	7	2,5%
Total	1098	100,0%	284	100,0%

From Table 1, it was observed that 66.2% of neonates presented dermatopathies of general involvement type; 20%, local involvement; 11%, vascular and 2.7%, pigmentary in the Regional Hospital of Ica, while 52.8%, general involvement; 16.2%, local involvement; 28%, vascular and 2.5%, pigmentary in the Augusto Hernandez Hospital. The identification of dermatopathies during the neonatal period was frequently observed in the Regional Hospital of Ica with 1098 cases compared to 284 cases in the Augusto Hernandez Hospital.

Table 2. Dermatopathologies of general involvement during the early neonatal period in the Regional Hospital of Ica and the Augusto Hernandez Hospital.

Dermatopathies	Regional Hospital of Ica		Augusto Hernández Hospital	
	Neonates	Porcentage	Neonates	Porcentage
Vernix Caseosa	3	0,4%	0	0,0%
Epidermolytic ichthyosis	2	0,3%	0	0,0%
Physiological desquamation	2	0,3%	0	0,0%
Miliaria	11	1,5%	3	2,0%
Erythema toxicum neonatorum	709	97,5%	147	98,0%
Total	727	100,0%	150	100,0%

From Table 2, it was observed that 97.5% of the neonates presented dermatopathies of general involvement, of the erythema toxicum neonatorum type in the Regional Hospital of Ica, while 98.0% in the Augusto Hernández Hospital. There were more cases of this dermatopathology in the first hospital; we can also observe in the Regional Hospital of Ica the presence of miliaria, physiological desquamation, epidermolytic ichthyosis and vermix caseosa, while in the second hospital, there was no record of the last three dermatopathologies.

Tabla 3. Dermatopathies with local involvement during the early neonatal period in the Regional Hospital of Ica and the Augusto Hernández Hospital.

Dermatopathies	Regional Hospital of Ica		Augusto Hernández Hospital	
	Frequency	Porcentage	Frequency	Porcentage
Milia	117	53,2%	19	41,3%
Sebaceous hyperplasia	0	0,0%	0	0,0%
Diaper rash	33	15,0%	14	30,4%
Seborrheic dermatitis	2	0,9%	1	2,2%
Oral inclusion cysts	47	21,4%	8	17,4%
Rape cysts	9	4,1%	1	2,2%
Suction blisters	2	0,9%	0	0,0%
Aplasia cutis	4	1,8%	0	0,0%
Epidermal nevus	3	1,4%	2	4,3%
Sebaceous nevus	3	1,4%	1	2,2%
Total	**220**	**100,0%**	**46**	**100,0%**

From Table 2, there was a greater presence and identification of dermatopathologies of local

involvement; it was performed in the Regional Hospital of Ica with two hundred and twenty cases compared to the Augusto Hernandez Hospital with forty-six cases, of which 53.2% of the neonates presented dermatopathologies of local involvement, of milia type in the Regional Hospital of Ica; while 41.3% in the Augusto Hernandez Hospital. Oral inclusion cysts and diaper rash were also identified in the first hospital 47 and 33 and in the second hospital 8 and 14 cases, respectively.

Table 4. Vascular dermatopathies during the early neonatal period in the Regional Hospital of Ica and the Augusto Hernández Hospital.

Dermatopathies	Regional Hospital of Ica		Augusto Hernández Hospital	
	Frequency	Porcentage	Frequency	Porcentage
Salmon patch	78	64,5%	68	84,0%
Cutis marmorata	1	0,8%	0	0,0%
Nevus flammeus	6	5,0%	2	2,5%
Congenital hemangioma	36	29,8%	11	13,6%
Total	**121**	**100,0%**	**81**	**100,0%**

From the table and figure 3, it was observed that 64.5% of the neonates presented vascular dermatopathies of salmon patch type, with 78 cases and 29.8% with 36 cases of congenital hemangioma in the Regional Hospital of Ica: while 84.0% with 68 cases and 13.6% with 11 cases, respectively, in Hospital Augusto Hernandez. We also have some vascular dermatopathies such as nevus flammeus and cutis marmorata.

Tabla 5. Pigmented dermatopathies during the early neonatal period in the Regional Hospital of Ica and the Augusto Hernandez Hospital.

Dermatopathies	Regional Hospital of Ica		Augusto Hernández Hospital	
	Frequency	Porcentage	Frequency	Porcentage
Mongolian spot	9	30,0%	2	28,6%
Transient hyperpigmentation	2	6,7%	0	0,0%
Melanocytic nevus	11	36,7%	2	28,6%
Café-au-lait spots	8	26,7%	3	42,9%
Total	**30**	**100,0%**	**7**	**100,0%**

From the table and figure 4, it was observed that 36.7% of the neonates presented pigmented dermatopathies, of the melanocytic nevus type with 11 cases, Mongolian spot with 9 cases, brown spot with milk with 8 cases and 2 cases of transient hyperpigmentation in the Regional Hospital of Ica; while 42.9%, with 3 cases, presented pigmented dermatopathies of the brown spot with milk type, 2 cases melanocytic nevus and Mongolian spot in the Augusto Hernandez Hospital.

Tabla 6. Difference in the identification of dermatopathies during the early neonatal period between the Regional Hospital of Ica and the Augusto Hernández Hospital.

Detail	Value
Ji-cuadrada	55.450
Gl	3
Sig. asintótica	0.000

As the observed significance value of the Chi-Square test for two independent samples p = 0.000 was less than the theoretical significance value α = 0.05, the null hypothesis was rejected. This meant that the Regional Hospital of Ica and the Augusto Hernandez Hospital differed in the types of dermatopathies identified during the early neonatal period, finding greater identification of dematopathies in the Regional Hospital of Ica.

4. Conclusions

The greatest presence and identification of dermatopathologies of local involvement is in the Regional Hospital of Ica with two hundred and twenty cases compared to the Augusto Hernandez Hospital with forty-six cases, of which 53.2% of the neonates presented dermatopathologies of local involvement, of milia type in the Regional Hospital of Ica; while 41.3% in the Augusto Hernandez Hospital. Of the neonates, 64.5% presented vascular dermatopathies of salmon patch type, with 78 cases and 29.8% with 36 cases of congenital hemangioma in Hospital Regional de Ica; while 84.0% with 68 cases and 13.6% with 11 cases, respectively, in Hospital Augusto Hernandez.

Of the neonates, 36.7% presented pigmented dermatopathies of the melanocytic nevus type with 11 cases, mongolian spot with 9 cases, brown spot with milk with 8 cases and only 2 cases of transient hyperpigmentation in the Regional Hospital of Ica; while 42.9% with 3 cases presented pigmented dermatopathies of the brown spot with milk type, 2 cases melanocytic nevus and mongolian spot in the Augusto Hernandez Hospital.

The Regional Hospital of Ica and the Augusto Hernandez Hospital differed in the types of dermatopathies identified during the early neonatal period, with more dermatopathies identified in the Regional Hospital of Ica.

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