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Cutaneous hyperpigmentation of the distal digits. A transient neonatal dermatosis.

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Summary This paper is concerned with five cases of isolated melanotic hyperpigmentation of the distal digits (IMHDD) observed in otherwise healthy infants aged less than six months without any significant skin abnormalities. Such condition is transient and subsides by the age of twelve months. Even though it is not an unknown clinical entity, literature on the subject is scarce. We propose that the IMHDD should be classified among transient neonatal dermatoses.

Key words Isolated melanotic hyperpigmentation, transient neonatal dermatoses.

Many physiological and benign skin abnormalities are observed in the neonatal period as well as in the first few months of life. The medical literature refers to them as transient neonatal dermatoses (TND). TND can create concern in parents and also doctors who are not familiar with these kinds of manifestations. These phenomena which are, by nature, transient and self-limiting probably were not observed by family pediatricians in the past because newborns were kept in Hospital Nurseries for longer periods of time. IMHDD can be classified among TND.

Five cases of IMHDD are described in this paper.

Case report

Five children aged less than six months have been observed by the Authors in the years 2000 and 2001 in their practices. The children showed hyperpigmentation of the distal digits of both hands. The clinical finding is ochre to light brown pigmentation, simmetrically distributed on the dorsal aspects of the distal digits and the paronychium. The skin is otherwise normal. The thumbs can be relatively spared.

The children are of Caucasian origin and healthy, with a normal pre-perinatal medical history.

The general physical examination and the careful inspection of the whole skin show no clinically detectable abnormalities.

The pigmentation disappeared by the age of twelve months in three out of five children; in the two remaining the clinical finding is still present (the children are aged six and seven months respectively).

Discussion

TND have beeen widely described in papers dealing with children of all races. However IMHDD has been briefly mentioned in two papers only (1-8) and in in a Textbook of Pediatric Dermatology (2).

Recently a French Group of investigators (11) has decribed this condition in 54 children out of 153. This high incidence contrasts with both the personal experience of the Authors and research on skin abnormalities in European newborns (12).

The difference may be due to the wide spectrum of pigmentation shades. When a specific skin abnormality is carefully sought by a skilled observer, even subtle manifestations, otherwise overlooked, can be found (e.g. the Mongolian Spot (8) evidently detectable in 5% of newborns of Caucasian origin, in its mildest forms is present in the lower back region of the vast majority Caucasian newborns).

Many disorders of pigmentation are to be considered both for a differential diagnosis and for a pathogenetic interpretation of the clinical picture.

Among the persistent hyperpigmentation detectable at birth or in the first few months of life are hereditary forms such as cafè-au-lait spots of neurofibromatosis and McCune-Albright syndrome, the linear or patchy lesions of incontinentia pigmenti, the profuse lentiginosis of Peutz-Jeghers and LEOPARD syndromes.

Among persistent melanotic hyperpigmentation of the nevic kind are linear and whorled nevoid hypermelanosis (9), which, in fact, is a hyperchromic nevus in a linear arrangement fol-

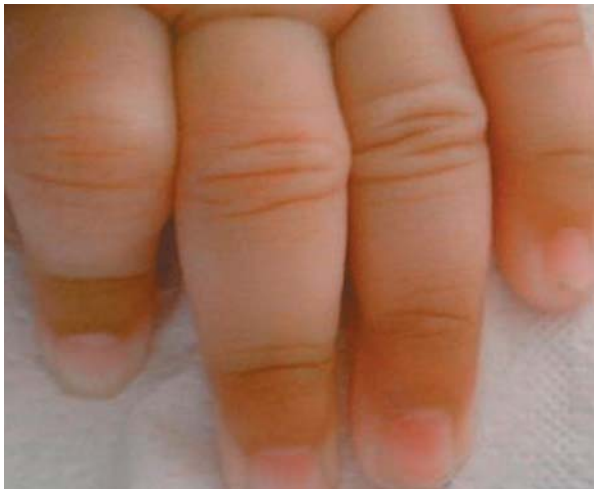

Fig. 1

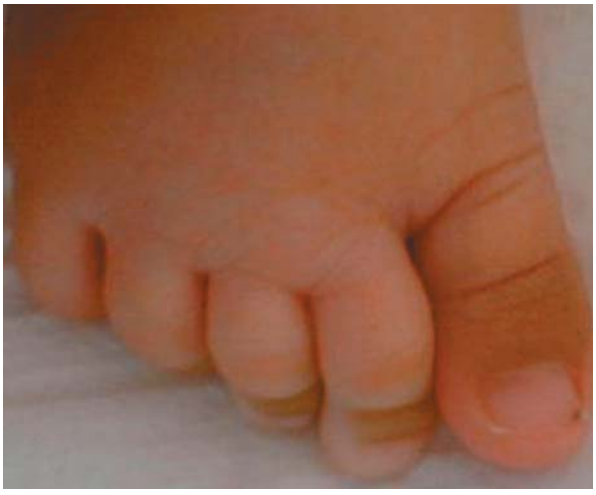

Fig. 2

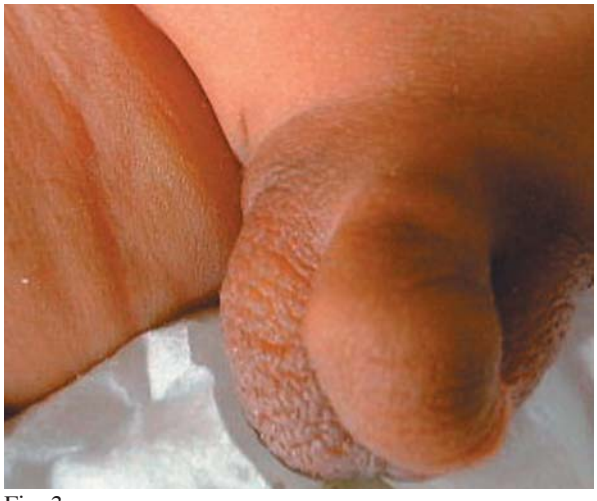

Fig. 3

Fig. 1, 2, 3: The melanic hyperpigmentation usually involves the third phalanx (Fig. 1, 2), of the hands (Fig. 1) and/or of the feet (Fig. 2). The color and transitoriness of the pigmentation are reminiscent of transiens genital hyperpigmentation of the newborn (Fig. 3).

lowing the Blaschko lines (3); the epidermal nevus, which, being flat at the beginning, can be taken for a hyperpigmented nevus and, finally, congenital melanocytic nevus.

There are two more forms of persistent hypermelanoses. The first is mastocytosis where a melanotic hyperpigmentation is probably due to the c-Kit ligand, which is a staminal cell growth factor, promoting proliferation and activity of both mast cells and melanocytes. The second is adrenal insufficiency with hyperpimentation of mucosae and palmo-plantar creases.

Some of melanotic hyperpigmentation are transient and, even if obviously different from IMHDD, they can help to understand the pathogenetic mechanisms.

We can mention the transient genital hyperpigmentation detectable in Afro-american newborns, in 20% of newborns of Mongolian origin and in 5% of Caucasian newborns (15). Its origin is still unclear.

Also transient pustular melanosis -TPM- (14) may present itself with brown macules surrounded by a ring of fine scales in the chin, neck and trunk regions. Recent studies showed that TPM is a post-inflammatory hyperpigmentation, which affects mainly black newborns. It would therefore be more appropriate to name it transient pustolosis of newborn (5).

Pigmented lines on the flexural areas of limbs (13) and abdomen (7-11) have been described and named transient linear hyperpigmentation of newborn. An incomplete migration of melanocytes in the epidermis of the deepest part of cutaneous folds may be a possible pathogenetic explanation.

Finally diffuse and persistent hyperpigmentations are to be mentioned. Among them the "bronze baby syndrome" due to phototherapy, the "carbon baby syndrome" or universal acquired melanosis probably due to a fine dispersion of melanosomes into keratinocytes (16) -typical of black people- and the acromelanosis progressiva, where the hyperpigmentation spreads from the dorsal aspects of the distal digits to limbs and sometimes the trunk (6).

Therefore a transient melanotic hyperpigmentation may result from an inflammatory process or from an endocrine imbalance.

The hypotesis of the persistence of melanocytes in the dermis is not feasible because such condition subsides in a longer period and has a lead-like hue instead of a brown hue.

The clinical absence of an inflammatory process rules out a post inflammatory hyperpigmentation (an hystological study is clearly unwarranted in a benign and transient condition).

On the other hand an endocrine imbalance, due to gonadotropins of maternal origin is to be considered.

Conclusions. IMHDD is a clinical entity which has been underestimated especially in its mildest expressions. Such condition can be classified among transient neonatal dermatoses.

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