Transient Pigmentary Lines of the Newborn

Lineas pigmentarias transitorias del recién nacido

To the Editor:

The skin of newborn babies plays a fundamental role in the transition at birth from an aqueous to a predominantly dry environment. Newborn skin is characterized by a relatively thin stratum corneum, the absence of dermal ridges and well-developed collagen fibrils within the papillary dermis, a composition distinct from that of subcutaneous fat, and an immature cutaneous vascular system.

Due to the immaturity of the cutaneous components a series of specific cutaneous reactions occurs during the first few weeks of life, giving rise to a condition known as transient benign cutaneous lesions of the newborn. It is important to recognize these reactions and not to confuse them with infections or signs of internal or genetic diseases in order to avoid alarming parents and performing unnecessary tests and treatments.

This letter describes the case of a 1-month-old infant who presented hyperpigmented lesions that followed the skin folds of the abdomen, consistent with a diagnosis of transient pigmentary lines of the newborn.

The patient was a 1-month-old male infant who had been referred for assessment of abnormal pigmentation of the abdomen that had been present since birth. He had been born by unassisted vaginal delivery at 39 weeks of gestational age, and had no congenital abnormalities. No physiological scaling or other transient cutaneous lesions were observed in the first days of life, and there was no family history of similar cutaneous lesions.

Physical examination revealed 4 horizontal hyperpigmented lines that followed the skin folds of the abdomen. Apart from hyperpigmentation of the navel, no other lesions were observed (Fig. 1). The infant’s growth and development were normal.

A diagnosis of transient pigmentary lines was established and the parents were informed of the transient nature of the condition. In the following 4 months, without treatment, the linear hyperpigmentation gradually faded and disappeared, and normal skin color was restored.

Transient pigmentary lines were first described by Gibbs in 1967. This rare condition, one of several forms of transient benign cutaneous lesions that affect newborns, is referred to in the literature by several terms, including striped hyperpigmentation of the torso, pigmentary lines of the newborn, and transient infantile patterned hyperpigmentation. By searching the PubMed database using the search terms pigmentary lines, pigmentary transient, striped hyperpigmentation, and transient hyperpigmentation we found only 7 other cases consistent with this entity (Table 1). The condition is characterized by the appearance at birth of several horizontal bands of hyperpigmentation that follow the skin folds of the abdomen, back, or limbs. These bands subsequently fade spontaneously and resolve fully by 2 to 8 months of age. They most commonly affect black or dark-skinned male neonates, and are rare in white infants. Transient pigmentary lines can be associated with abnormal cornification (ichthyosis vulgaris and collodion baby) and pigmentation (vertical linear hypopigmentation of the abdomen, hyperpigmentation along the spine, and mottled hyperpigmentation of the abdomen and diffuse hyperpigmentation of the navel.)

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**Figure 1** Linear hyperpigmentation in the skin folds of the abdomen and diffuse hyperpigmentation of the navel.

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Table 1  Main Characteristics of Cases of Transient Pigmentary Lines of the Newborn Described in the Literature.

<table>
<thead>
<tr>
<th>Source</th>
<th>Country</th>
<th>Sex/Age of Newborn</th>
<th>Racial Group</th>
<th>Location of Transient Pigmentary Lines</th>
<th>Other Skin Lesions</th>
<th>Extracutaneous Anomalies</th>
<th>Evolution of Transient Pigmentary Lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gibbs,3 1967</td>
<td>United States</td>
<td>M/NA</td>
<td>Black</td>
<td>Abdomen</td>
<td>Collodion baby Ichthyosis vulgaris</td>
<td>Umbilical hernia</td>
<td>Resolved at 4 mo of age</td>
</tr>
<tr>
<td>Halper et al.,5 1993</td>
<td>United States</td>
<td>M/6 wk</td>
<td>Black</td>
<td>Back, Flank, Arms</td>
<td>Vertical linear hypopigmentation of the abdomen</td>
<td>No</td>
<td>Resolved at 4-6 mo of age</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M/2 mo</td>
<td>Black</td>
<td>Abdomen</td>
<td>Vertical linear hypopigmentation of the abdomen</td>
<td>No</td>
<td>Resolved at 6 mo of age</td>
</tr>
<tr>
<td>Prigent et al.,6 2000</td>
<td>France</td>
<td>M/at birth, M/3 wk</td>
<td>Black, Black</td>
<td>Back, Arms</td>
<td>Hyperpigmentation along the spine</td>
<td>No</td>
<td>Resolved at 2-3 mo of age</td>
</tr>
<tr>
<td>Martin et al.,7 2009</td>
<td>Spain</td>
<td>F/2 wk</td>
<td>White</td>
<td>Abdomen, Back</td>
<td>Hyperpigmented macules on the back</td>
<td>No</td>
<td>Cleared in 6 mo</td>
</tr>
<tr>
<td>Garg et al.,8 2012</td>
<td>India</td>
<td>M/2 wk</td>
<td>NA</td>
<td>Abdomen, Arms</td>
<td></td>
<td>No</td>
<td>Cleared in 3-6 mo</td>
</tr>
<tr>
<td>Monteagudo et al.,8 2012</td>
<td>Spain</td>
<td>M/1 mo</td>
<td>White</td>
<td>Abdomen</td>
<td>Hypermelanosis of the navel</td>
<td>No</td>
<td>Cleared in 4 mo</td>
</tr>
</tbody>
</table>

Abbreviations: F, female; M, male; NA, not available; NF, no follow up.

* Present case.
No associated extracutaneous anomalies have been described. The etiology and pathogenesis of transient pigmentary lines are unclear; its origin is not thought to be hormonal, but rather a consequence of friction or impaired exfoliation of the embryonic skin, accentuated by the flexed position of the fetus (mechanical trauma associated with hyperkeratosis within the skin folds).  

Newborns and infants can be affected by multiple processes that involve altered pigmentation. The differential diagnosis of transient pigmentary lines includes hyperpigmentation secondary to congenital adrenal hyperplasia, possibly caused by cross-reactivity of adrenocorticotropic hormone with melanocyte-stimulating hormone (MSH) receptors. It should also be distinguished from transient hyperpigmentation which is present in approximately 15% of newborns (particularly dark-skinned males), affects the middle and lower abdomen (black line), the area around the areolas, the axillae, the perineal region, and the genital area (the scrotum in males and the labia and vulva in females), and has been associated by some authors with stimulation in utero by MSH.

In summary, we have presented a new case of transient pigmentary lines in the skin folds of the abdomen in a white infant; this entity has been rarely described in reports or in medical journals and is possibly underdiagnosed, but familiarity with this condition is fundamental for routine dermatologic practice.

References


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