OASIS DERMATOLOGY GROUP

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Cutis Marmorata

Cutis marmorata (CM) is a common, transient vascular phenomenon observed predominantly in newborns, characterized by a red or blue, lacy pattern on the skin, particularly in response to cold exposure. While typically benign and self-limiting, CM must be differentiated from Cutaneous Marmorata Telangiectasia Congenita (CMTC), a more persistent and permanent vascular anomaly.

Pathophysiology and Etiology

Cutis marmorata is primarily a physiological response to environmental factors, specifically cold exposure. It occurs due to the immaturity of the infant's vascular and neurological systems, leading to alternating constriction and dilation of blood vessels. This results in the characteristic mottled appearance, especially on the extremities, such as the hands and feet. The lacy, reticular pattern seen in CM is a result of superficial blood vessel constriction, and it usually resolves with rewarming, indicating the transient nature of the condition. The underlying mechanism involves temperature-induced vasoconstriction, which diminishes blood flow to the superficial layers of the skin, leading to the characteristic pattern.

In neonates, this condition is typically a normal physiologic response, as the autonomic nervous system and peripheral circulation are not fully developed. The phenomenon usually fades as the infant's circulatory system matures, often within weeks to months.

Differentiation from Cutaneous Marmorata Telangiectasia Congenita (CMTC)

It is critical to differentiate Cutis marmorata from CMTC, a more persistent vascular anomaly that does not resolve with rewarming. CMTC presents as a permanent, telangiectatic network of blood vessels on the skin and can be seen at birth. This condition is more likely to be associated with congenital anomalies, and it does not respond to changes in temperature. Unlike CM, CMTC can remain throughout life and may require further investigation if other systemic signs or symptoms are present.

Clinical Associations

Although CM is typically benign, persistent or atypical forms can be indicative of underlying systemic conditions. Notably, persistent CM is associated with several genetic syndromes, including Down Syndrome (Trisomy 21), Edwards Syndrome (Trisomy 18), and Cornelia de Lange Syndrome.

In these cases, the presence of CM may warrant further genetic testing and clinical evaluation to rule out associated syndromic features. Additionally, CM in newborns can be a sign of poor peripheral circulation, particularly in infants at risk for sepsis. In such cases, it may signal compromised perfusion, warranting closer monitoring of the infant's clinical status.

Clinical Presentation

The primary feature of CM is the appearance of a lacy, red or blue mottled pattern on the skin, which becomes more prominent in response to cold. This vascular pattern is most commonly observed on the hands, feet, and limbs, and can extend to other areas of the body. The lesions are often asymptomatic, although mild discomfort due to temperature sensitivity may be reported. The appearance typically disappears with warming of the affected skin, further confirming its benign, reversible nature.

Diagnosis

CM is diagnosed primarily through clinical examination, with the key diagnostic feature being the pattern's disappearance upon rewarming of the skin. No invasive testing is required for the diagnosis. However, if CM is persistent or associated with systemic symptoms, additional investigations may be needed to rule out underlying conditions such as chromosomal abnormalities or sepsis.

Management

In most cases, CM requires no formal treatment. The condition is self-limiting and resolves as the newborn's vascular system matures. Reassurance of parents is crucial, as the skin findings can be concerning but are typically benign. The primary management approach involves:

- *Rewarming*: Ensuring the infant is kept warm to promote vasodilation and reduce the mottling.
- *Monitoring*: In the event of persistent or severe CM, infants should be monitored for signs of systemic illness, such as sepsis, which may present with similar skin manifestations.

If CM is suspected to be associated with underlying conditions like genetic syndromes or sepsis, further evaluation, including genetic testing or blood cultures, may be warranted. However, in the absence of these conditions, the prognosis is generally excellent.

Conclusion

Cutis marmorata is a common, benign vascular disorder in neonates, typically triggered by cold exposure and resolving with rewarming. It is crucial to distinguish it from CMTC, which is a more permanent and potentially syndromic condition. While most cases of CM are self-limiting, persistent manifestations may signal underlying genetic or systemic issues, requiring additional clinical investigation. Reassurance, warm environments, and appropriate monitoring are the mainstays of treatment, with most cases resolving spontaneously as the child's vascular system matures.

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