

Agminated Nevi of the Foot with Checkerboard and Blaschkoid Distribution

Vito Ingordo¹, Nicola Licci², Stefano Caccavale³, Gerardo Ferrara⁴

1 Outpatients' Service of Dermatology, District n. 6, Local Health Centre Taranto, Taranto, Italy, Centro Studi GISED, Bergamo, Italy

2 Outpatients' Service of Dermatology, District n. 1, Local Health Centre Taranto, Taranto, Italy

3 Dermatology Unit, University of Campania "L. Vanvitelli", Napoli, Italy

4 Anatomic Pathology Unit, Hospital of Macerata, Macerata, Italy

Key words: agminated nevi, acquired melanocytic nevi, congenital melanocytic nevi, acral nevi, dermoscopy

Citation: Ingordo V, Licci N, Caccavale S, Ferrara G. Agminated nevi of the foot with checkerboard and blaschkoid distribution. *Dermatol Pract Concept*. 2022;12(3):e2022110. DOI: <https://doi.org/10.5826/dpc.1203a110>

Accepted: November 8, 2021; **Published:** July 2022

Copyright: ©2022 Ingordo et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License (BY-NC-4.0), <https://creativecommons.org/licenses/by-nc/4.0/> which permits unrestricted noncommercial use, distribution, and reproduction in any medium, provided the original authors and source are credited.

Funding: None.

Competing interests: None.

Authorship: All authors have contributed significantly to this publication.

Corresponding author: Stefano Caccavale, MD, Dermatology Unit, Department of Mental and Physical Health and Preventive Medicine, University of Campania Luigi Vanvitelli, Via Sergio Pansini, 5, 80131 Naples, Italy; phone: +39 3336365526; fax: +39 0815468759; E-mail: stefano85med@libero.it

Introduction

Agminated nevi (AN) are an infrequent group of melanocytic nevi (MN), whose name derives from the Latin word *agmen*, meaning "aggregation." AN are indeed a clustered group of lesions confined to a localized area of the body. Many pigmented lesions have been described in the literature as agminated, including Spitz nevi, blue nevi, lentiginos, congenital melanocytic nevi (CMN), acquired melanocytic nevi (AMN). We report a case of a woman with AN of the foot with a peculiar checkerboard and blaschkoid distribution.

Case presentation

A 34-years-old woman was seen for multiple MN arranged in a checkerboard pattern on her right foot. She reported that some nevi have been present on the sole since infancy,

while many other nevi appeared on the lateral, medial and plantar location later on. Dermoscopically, the pigmented lesions of the lateral margin of the foot (Figure 1A), as well as those located on the fourth and fifth toe and in fourth interdigital space (Figure1B) showed a reticular pattern (Figure1D) and a transition pattern (reticular plus parallel furrow or lattice-like) (Figure1E). The nevi located on the sole (Figure1C) disclosed various dermoscopic patterns: homogeneous, Figure 1F), fibrillary (Figure1G), lattice-like pattern (Figure1H), lattice-like pattern with ovoid structure of the furrows (Figure1I).

According to the patient medical history and dermoscopic patterns of acral nevi, a diagnosis of uncommon coexistence of acral CMN and AMN was done. Unfortunately, the patient refused the biopsy and histopathologic examination of some nevi. Anyhow, we decided to plan clinical and dermoscopic monitoring of our patient every 3–6 months.

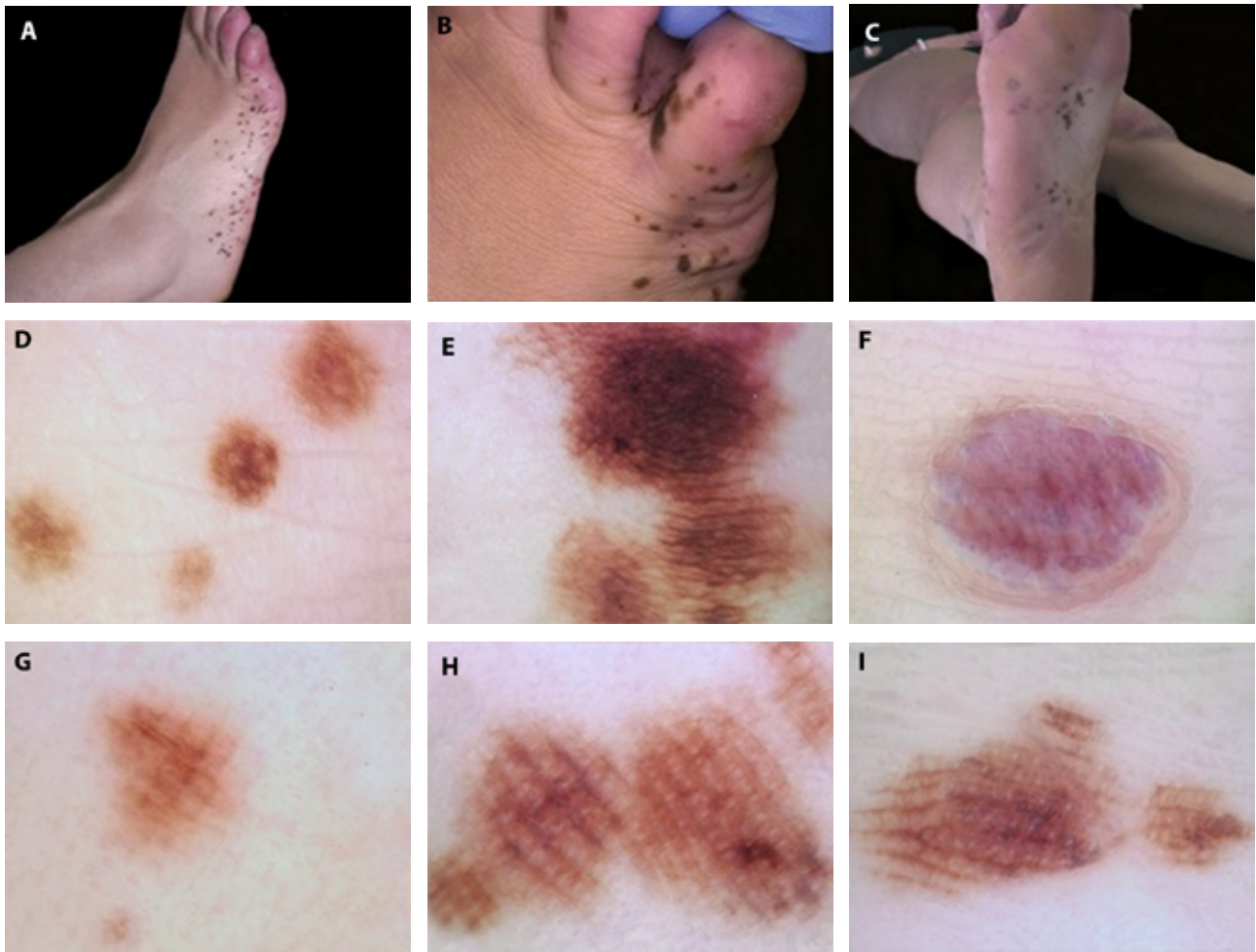


Figure 1. (A) Clinical image of the pigmented lesions of the lateral margin of patient right foot. (B) Close-up picture of agminated nevi located on the fourth and fifth toe and in fourth interdigital space. (C) Clinical picture of agminated nevi of the right sole. (D and E) Dermoscopy of agminated nevi on the lateral margin of patient right foot. (F-I) Dermoscopy of agminated nevi of the right sole.

Conclusions

According to the dual concept of nevogenesis, small CMN are present at birth or in the first years of life (so-called tardive small CMN) and are clinically and dermoscopically indistinguishable from early-onset AMN. They are both genetically determined, usually share the same dermoscopic features (ie globular pattern) and evolve in nevi with a cobblestone or homogeneous pattern in adult life. These nevi often exhibit overlapping clinical and histopathological features. On the contrary, the “true” AMN develops in adolescence and adult life and could be influenced by environmental factors, such as an intermittent sun exposure.

In our patient, the lesions with a homogeneous brown-grayish or a parallel-furrow pattern combining with an ovoid shape of the lines, mainly located on the sole along Blaschko lines, and appeared in infancy, could be CMN. On the contrary, the lesions with a reticular and checkerboard pattern, on lateral, medial and interdigital sides of the foot, appeared in late childhood and adolescence, could be AMN.

Besides, we know from the literature that common and dysplastic AMN can be arranged seldom in a checkerboard pattern, while CMN are commonly arranged along the Blaschko lines [1]. Briefly, the checkerboard pattern of acral AMN has been explained by an early postzygotic mutational event giving rise to loss of heterozygosity, that is the loss of a normal wild-type allele, and which leads to the expression of a mutant or recessive allele [2].

Although the diagnosis was not confirmed by a biopsy, this is a case with a peculiar arrangement of AN involving the acral area.

Reference

1. Torchia D. Melanocytic naevi clustered on normal background skin. *Clin Exp Dermatol.* 2015;40(3):231-237. DOI: 10.1111/ced.12586. PMID: 25703021.2. Happle R. Loss of heterozygosity in human skin. *J Am Acad Dermatol* 1999; 41: 143-61. *J Am Acad Dermatol.* 1999;41(2 Pt 1):143-164. DOI: 10.1016/s0190-9622(99)70042-3. PMID: 10426882.