

Results: Comparable cells were observed in LC-OCT as large cells with a peripheral hyper-reflective ring located along the dermo-epidermal junction and within the dermis

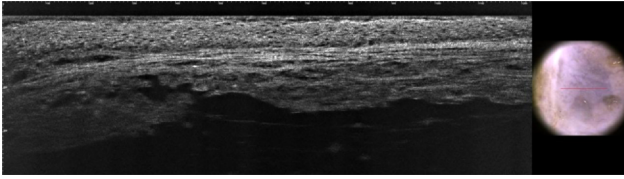


Figure 1: LC-OCT image of an intratumoral cleavage within a large malignant proliferation surrounded by multinucleated giant cells.

Histological examination confirmed the presence of multinucleated giant cells within an atypical melanocytic proliferation with a lentiginous lateral component, corresponding to a Dubreuilh melanoma with a Breslow thickness of 2.8 mm and ulceration

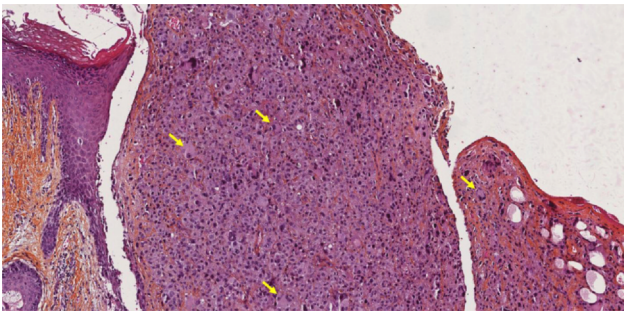


Figure 1: H&E slide (x10) showing an atypical melanocytic proliferation with giant and/or multinucleated cells (yellow arrows)

This case illustrates strong correlation between non-invasive skin imaging findings and histology. The presence of multinucleated giant cells, typically associated with histiocytic lesions, has also been described in "fibroxanthome-like" or "xanthogranulome-like" melanomas and Spitz nevi. This highlights the critical role of immunohistochemical staining in cases of diagnostic uncertainty to confirm the malignant melanocytic nature of the lesion.

Conclusions: Although multinucleated giant cells have previously been observed in LC-OCT imaging of xanthogranulomatous lesions, this represents, to our knowledge, the first description of a giant cell melanoma in LC-OCT. It is a rare tumor that must not be misdiagnosed as a benign histiocytic lesion.

Keywords: Melanoma, metastasis, dermoscopy, Confocal

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A-444

First Description of Triple Co-Localization Using x400 Super-Magnified Dermoscopy, LC-OCT, and x20 Dermoscopy

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Background: Super-magnified dermoscopy is an innovative technique with the potential to significantly expand the applications and utility of dermoscopy by democratizing access to in vivo microscopic imaging. However, the devices currently available are limited by the absence of precise spatial positioning at a microscopic scale. Here, we present the first reported case of triple co-localization, integrating standard dermoscopy, super-magnified dermoscopy, and LC-OCT, offering enhanced precision and diagnostic capabilities.

Methods: We used an innovative device that, for the first time, achieved triple co-localization by combining three imaging modalities. This setup allowed us to position a 3D confocal image from LC-OCT within the microscopic field of super-magnified x400 dermoscopy, all contextualized within a standard x20 dermoscopic image.

Results: We analyzed eight lesions, including two junctional nevi, one balloon cell nevus, one dermal nevus, two pigmented basal cell carcinomas (BCCs), one pigmented actinic keratosis (AK), and one seborrheic keratosis (SK). Perfect alignment with LC-OCT images was observed across all lesions. In the epidermis, melanocytes were identified above lobules of BCCs. At the dermo-epidermal junction, a "ring pattern" was observed in the two junctional nevi, while a "cobblestone pattern" characterized the seborrheic keratosis. Dendritic cells in the actinic keratosis were visible across all three imaging modalities. In the dermis, plump cells corresponding to melanophages were observed in a BCC, SK, and balloon cell nevus. Additionally, pigmented melanocytes were detected within dermal melanocytic clusters of a dermal nevus, along with palisading and maple-leaf-like structures in a BCC, balloon cells in the balloon cell nevus, and horizontalized vessels over dermal tumor clusters in a BCC.

This first global report of triple co-localization underscores the potential of super-magnified dermoscopy for identifying diverse microscopic imaging signs, validating their semiological importance, and enhancing our understanding of subtle dermoscopic features.

Conclusions: Triple co-localization is a groundbreaking technique that could revolutionize dermoscopy by enabling back-and-forth interpretation between standard x20 dermoscopy, x400 colored reflectance dermoscopy, and 3D LC-OCT imaging. This could reinforce dermatologists expertise at a time when other specialties are increasingly integrating dermoscopy into their practices.

Keywords: super-magnified dermoscopy, LC-OCT, dermoscopy, innovation

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A-449

The Role of ⁶⁸Ga-DOTA-G2-Nle-MSH PET in Enhancing Specificity for Melanoma Detection: Case Reports

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Background: Melanoma is an aggressive malignancy with a high metastatic potential, making early and accurate detection of lesions critical for management. The use of 68Ga-DOTA-G2-Nle-MSH (68Ga- α MSH), a radiotracer targeting melanocortin-1 receptors expressed in melanoma cells, has demonstrated superior specificity compared to 18FDG PET for identifying metastatic lesions.

Methods: We present two cases where 68Ga- α MSH PET was pivotal in detecting melanoma metastases, guiding diagnosis and treatment

Results: Case 1: A 75-year-old male presented with a dorsal tumor. Pathology confirmed a melanoma. Initial 18FDG PET revealed hypermetabolic axillary lymphadenopathy, a lesion in the second thoracic vertebra, and pleural thickening. 68Ga- α MSH PET provided greater lesion specificity, showing uptake in axillary nodes, focal hepatic uptake, interscapular cutaneous thickening, and involvement of the humerus, right scapula, and left sacral wing. Biopsies confirmed metastatic melanoma without BRAF mutation. He received radiotherapy and systemic pembrolizumab. Follow-up 18FDG PET showed a reduction in hypermetabolic axillary nodes, pleural thickening, and thoracic vertebral lesion. A follow-up 68Ga- α MSH PET is scheduled for January 2025.

Case 2:

A 45-year-old male with a history of sarcoidosis and localized melanoma resected from the anterior thorax in 2014 underwent 18FDG PET for restaging. Findings included supra- and infradiaphragmatic lymphadenopathy, osseous infiltration, hepatic and splenic lesions, suggestive of active sarcoidosis with uncertain tumor activity. 68Ga- α MSH PET clarified the diagnosis, revealing uptake in lymphadenopathy, osseous, hepatic, and splenic lesions, consistent with melanoma metastases expressing MSH receptors. A liver biopsy confirmed BRAF-mutated metastatic melanoma. Vemurafenib-Cobimetinib was initiated

Conclusions: These cases highlight the value of 68Ga- α MSH PET in improving specificity for melanoma metastasis detection, particularly in complex scenarios where 18FDG PET findings may be ambiguous. The tracer's ability to target melanocortin-1 receptors provides critical diagnostic and therapeutic insights, underscoring its potential as a superior imaging modality in melanoma management. Further studies are warranted to establish its role in routine clinical practice

Keywords: Melanoma, 68Ga- α MSH PET, Molecular Imaging

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A-450

Stage and detection of small invasive melanomas

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Background: The ABCDE mnemonic for the detection of melanoma uses "D" for diameter larger than 6 mm. We aimed to investigate the stage and patterns of detection of small invasive melanomas with diameter \leq 6 mm.

Methods: We performed a retrospective, single-center, University Hospital-based, study in patients diagnosed with small invasive melanoma, from 1993 to 2023. Lentigo maligna melanoma and acral lentiginous melanoma were excluded.

Results: A total of 210 patients with small invasive melanomas (greatest diameter \leq 6 mm) were included. The median age was 48 years old (IQR 39, 60), and 54% were female. The maximum median diameter of melanoma was 0.5 cm (IQR 0.4, 0.6). Most small melanomas were located on the trunk (38.5%) or lower extremities (29.3%), followed by upper extremities (19.7%) and head/neck (12.5%). There were 14 (8%) patients with small melanomas that were metastatic at first diagnosis.

Only less than one-fifth of cases was diagnosed of a dermatologist or other physician (14% and 5%, respectively). The remaining small melanomas were self-detected in 131 patients (66%), or detected by a relative in 31 (16%). Self-detected vs physician-detected MIS were not associated with older age ($>$ 50 years old) ($p=0.993$) or with having metastasis at diagnosis ($p=0.290$). A change in size was noted in significantly more patients who self-detected melanoma versus physician-detected melanoma (71% vs 44%, respectively, $p=0.003$). A change in shape was noted in 54% of patients that self-detected melanoma versus 33% of patients that had melanoma detected by a physician ($p=0.032$). There was no difference in those noticing a change in color and the mode of detection (self-detected versus physician-detected) ($p<0.967$).

Conclusions: In our study, 8% of small melanomas were metastatic at first diagnosis, underscoring the importance of awareness of small melanoma detection in the population.

Keywords: small, invasive, melanoma

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A-451

A retrospective study of patterns of detection of melanoma in situ

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Background: The majority of invasive melanomas are detected by patients. The patterns of detection of melanoma in situ are not well described in Greek patients. We aimed to investigate the patterns of detection of melanoma in situ (MIS) and describe the presenting characteristics of MIS that were self-detected.

Methods: We performed a retrospective, single-center, University Hospital-based, study in patients diagnosed with MIS, from 1993 to 2023. Lentigo maligna melanoma and acral lentiginous melanoma were excluded. Variables of interest were collected in standardized questionnaires at MIS diagnosis, and for this study included the location and diameter of MIS, and self-reported information on who first noticed as suspect the lesion that turned out to be MIS, and self-reported pruritus, or notice of change in size, color or shape.

Results: A total of 483 patients with MIS were included. The median age was 54 years old (IQR 42, 65), and 55% were female. The maximum median diameter of MIS was 1 cm (IQR 0.6, 1.6) and 113 (23%) of MIS had diameter of 6 mm or less. Only approximately one-third of cases was diagnosed of a dermatologist or other physician (33% and 6%, respectively). The remaining MIS were self-detected in 193 patients (44%), or detected by a relative in 73 (16%) or another in 4 (0.9%). Self-detected vs physician-detected MIS were not associated with a diameter $>$ 6mm ($p=0.372$), or older age ($>$ 50 years old) ($p=0.437$). A change in size was noted in 173 (66%) of patients that self-detected MIS and in 63 (42%) of patients that had MIS detected by a physician ($p<0.001$). A change in color was noted in 159 (61%) of patients that self-detected MIS and in 53 (36%) of patients that had MIS detected by a physician ($p<0.001$). A change in shape was noted in 146 (57%) of patients that self-