Clinical and Dermoscopic Features of Thin Nodular Melanoma

A study of the International Dermoscopy Society

Coordinator: Dr. Alexander J. Stratigos and colleagues, alstrat2@gmail.com

Introduction: Nodular melanoma comprises 12-30% of all melanomas, but at least 50% of all cutaneous melanoma greater than 2 mm [1, 2, 3]. Early detection of NM while they are still thin could ultimately lead to a reduction of thick lesions and to a better prognostic outcome. Several reports with relatively small number of cases have attempted to characterize the entity of thin NM (with thickness less than 2 mm), considered an earlier stage of the much larger fraction of thick NM [4, 5, 6].

Aim of the study: To determine the clinical and dermoscopic features of thin versus thick NM and identify potential clinical/ dermoscopic signs that aid in the earlier identification of thin NM.

Methods: Members of the IDS will be invited to submit any cases of histologically confirmed thin nodular melanoma (nodular defined as invasion not beyond 3 rete-ridges; thin defined as less than 2 mm Breslow thickness) diagnosed over the past 8 years (2009-2016). A confirmation of the histologic diagnosis of NM by the local pathologist is recommended in order to exclude the possibility of a misdiagnosed SSM. High quality clinical and dermoscopic images of the lesions will be requested. Information on the size of the lesion will be also asked (please use a ruler on the image if possible) as well as the type of dermoscopy used (PD vs NPD). Basic information such as age, sex of the patient, high risk factors, location of the lesion, personal or family history of melanoma, mode of detection (patient/ relative versus physician), histopathologic features (Breslow thickness, mitotic rate, ulceration) and staging information (SLNB, AJCC staging) from each case will be completed in a specific datafile (see attached excel file). **To enable comparison with thick NM, we will also request the same information and images of two thick NM (≥2 mm) for each case of thin NM derived from the same center.**

A standardized assessment of clinical and dermoscopic images based on the above criteria will be performed by a central group of investigators who will be "blinded" to the clinical and histological parameters. Clinical features of the lesions will be evaluated using criteria from the ABCD algorithm. Evaluation will include diameter, shape, symmetry, color, borders, elevation, and the presence of ulceration. Dermoscopic images of the lesions will be analyzed for overall pattern, organization, symmetry, and color as well as for specific dermoscopic structures of melanoma, melanocytic lesions and non-melanocytic lesions (detailed list based on Menzies et al, JAMA Dermatology 2013).

A specific pattern of clinical and dermoscopic presentation will be investigated. Correlations with specific clinical and histopathologic features will also be conducted whenever possible.

Duration of image and information collection: 6 months from the protocol dissemination date with possible extension.

Important considerations:

**** An excel file (datafile) with all the requested information will be provided to each participating investigator. Even if there are some missing data, we are still interested in evaluating the images.***

***** Please ask your pathologist to re-evaluate the cases of nodular melanoma based on the above definition and exclude the misdiagnosis of a nodular component of an SSM.***

****** Please send the images and datafile to Dr. A. Stratigos, alstrat2@gmail.com, in the following fashion: Case T1a: clinical image of thin (< 2 mm) NM, T1b: dermoscopic image of thin NM, T2a/T21b, etc……N1a: clinical image of thick (≥ 2mm) NM, N2b: dermoscopic image of thick NM, N2a/N2b, etc. Please note whether the dermoscopy used was PD or NPD.***

****** *Any images received will remain the property of the investigator who has submitted these images. They will be used solely for the purposes of this study. Any use of images will be first discussed with the investigator.*

Manuscript for publication:

Each contributor who sends at least one case will be listed as co-author in a possible manuscript; if the number of participating colleagues is too high for the journal, the maximum of colleagues according to the number of included cases will be named and the remaining colleagues will be included into the "Group of IDS", which refers to the list of all participating colleagues into the manuscript.

The project receives no financial support.

April 28th, 2016

Bibliography

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Table 1. Dermoscopic Features to be evaluated - based on Menzies et al, JAMA Dermatol. 2013 Jun;149(6):699-709

Melanocytic criteria

1. pigment network/pseudonetwork
2. aggregated globules (not multiple blue-gray globules)
3. Streaks (pseudopods/radial streaming)

3a. Radial streaming

3b. Pseudopods

4. Homogeneous blue pigmentation
5. Parallel pattern (on volar sites)

5a. Pinpoint vessels

5b. Comma vessels

Seborrheic keratosis criteria

6. Multiple (>3) milia-like cysts
7. 1-3 milia-like cysts
8. Comedo-like openings (irregular crypts)
9. Light brown fingerprint-like areas
10. Fissures/ridges

BCC criteria

11. arborizing vessels
12. arborizing small diameter
13. arborizing large diameter
14. leaf-like areas
15. large blue-gray ovoid nests
16. multiple blue-gray globules
17. spoke wheel areas
18. ulceration

Vascular lesion criteria

19. red-blue lacunes
20. red blue to red-black homogeneous areas
21. vessels of the dermal plexus

Other criteria

22. Central white striated patch

23. Typical network (regular prominent or discrete)
24. Atypical network (broadened and irregular, includes rhomboidal structures on face)
25. Negative pigment network
26. Dots/globules regular (regular size and distribution)
27. Dots/globules irregular (irregular size and or distribution)
28. Black dots/globules regular
29. Black dots/globules irregular
30. Black dots/globules peripheral
31. Black dots/globules central
32. Brown dots/globules regular
33. Brown dots/globules irregular
34. Multiple brown dots
35. Blue-gray globules regular
36. Blue-gray globules irregular
37. Multiple blue-gray dots (peppering)
38. Depigmentation irregular (irregular shape)
39. Depigmentation regular (symmetrical distribution)
40. Depigmentation focal (single focus)
41. Depigmentation multifocal
42. Depigmentation diffuse (throughout the lesion)
43. Depigmentation scar-like
44. Blue-white veil
45. Tan
46. >1 shade of tan/brown
47. Dark brown
48. Red-blue
49. Blue
50. Gray
51. Pink
52. >1 shade of pink
53. Black
54. White

55. Color count (excluding white) 1-6 (tan, dark brown, red, blue, gray, black)
= ---------- (insert number)
55A. 1 color
55B. 5-6 colors
56. Sharply demarcated colors
57. Blurred “out of focus” colors
58. Follicular plugs
59. Abrupt edge (any aspect)
60. Graduated edge (entire lesion)
61. Symmetrical pigmentation pattern

62. Asymmetric pigmentation pattern
63. Symmetric shape
64. Asymmetric shape
65. Irregular blotch (irregular shaped homogeneous area larger than 10% of the area)
66. Regular blotch
67. Vessels regular (unifrom shape/size)
68. Vessels irregular (irregular shape/size)
69. Peripheral vessels (at or near the edge)
70. Central vessels
71. Predominant peripheral vessels
72. Predominant central vessels
73. Large diameter vessels
74. Linear-irregular or dotted vessels not clearly combined with regression structures
75. Comma vessels regular distribution
76. Comma vessels irregular distribution
77. Hairpin vessels
78. Hairpin vessels peripheral
79. Hairpin vessels central
80. Dotted/pinpoint vessels (not confined to the holes of pigment network): regular distribution.
81. Dotted/pinpoint vessels (not confined to the holes of pigment network): irregular distribution
82. Linear-irregular vessels
83. Dotted + linear irregular vessels
84. Radial (wreath-like or “crown”) vessels
85. Milky red/pink areas
86. Glomerular vessels
87. Milky red globules
88. Some vessels surrounded by white halo or yellow pigment
89. Majority of vessels surrounded by white halo or yellow pigment

Predominant vessel type (circle one only):

90. Arborizing
91. Comma
92. Crown/radial
93. Dotted/pinpoint vessels (not confined to the holes of pigment network):
94. Hairpin
95. Linear irregular
96. Vessels with white or yellow pigmented halo
97. Glomerular
98. Peripheral light brown structureless areas occupying more than 10% of the surface area

99.	Blue-black structures
100.	Crystalline structures/shiny white streaks