Recurrence of moderately dysplastic nevi with positive histologic margins

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Background: The Pigmented Lesion Subcommittee of the Melanoma Prevention Working Group recently published a consensus statement that incompletely excised moderately dysplastic nevi (MDN) without clinical residual pigmentation can be observed and not re-excised. However, data regarding recurrence of MDN with positive histologic margins are quite scant.

Objective: We sought to extend the reported findings with a study to determine the recurrence rate of MDN with positive histologic margins.

Methods: We performed a retrospective study on MDN with positive histologic margins that were not re-excised and for which at least 1 year of clinical follow-up was available.

Results: We found a total of 147 such nevi from January 1, 2007, to December 31, 2013. Six MDN (5 compound and 1 junctional) or 4% recurred with an average recurrence time of 1.7 years. All of these MDN were evaluated by shave biopsies.

Limitations: Subjectivity in grading of atypia is a limitation of this study.

Conclusion: These data from a large study focusing exclusively on recurrence of MDN with positive histologic margins support the conclusion of the Pigmented Lesion Subcommittee that incompletely excised MDN do not require re-excision. (J Am Acad Dermatol 2017;76:527-30.)

Key words: excision; histologic margins; moderately dysplastic nevi; observation versus re-excision; positive margins; recurrence; treatment of moderately dysplastic nevi.

The Pigmented Lesion Subcommittee (PLS) of the Melanoma Prevention Working Group recently published a consensus statement that incompletely excised moderately dysplastic nevi (MDN) without clinical residual pigmentation can be observed and not re-excised.[1] They note that, "…observation may be a reasonable option for management of MDN with positive histologic margins without clinically apparent residual pigmentation; however, more data are needed to make definitive recommendations in this clinical scenario."[1] This conclusion is based on several studies that look at the clinical follow-up of MDN, including a small minority that showed histologically positive margins. Abello-Poblete et al[2] looked at 75 MDN with positive histologic margins. However, all the MDNs in their study were re-excised within 2 to 16 weeks, and recurrence data were not available. In the same vein, Strazzula et al[3] gathered data on a much larger group of MDN, 403 in all, with positive

Abbreviations used:

DN:	dysplastic nevi
MDN:	moderately dysplastic nevi
PLS:	Pigmented Lesion Subcommittee

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margins histologically, which were re-excised. They reported that 57 MDN were present in the re-excision specimens. Recurrence data were not available from this study, given that they had studied re-excised MDN. Similarly, Reddy et al[4] had 83 MDN with positive histologic margins in their study, of which 52 were re-excised, and residual lesions were present in 20 of them. Again, recurrence information was not available. Goodson et al[5] collected data on a large number of nevi, but of these only 4 were MDN with positive histologic margins (their definition of a positive histologic margin was nevi that were present within 0.2 mm of the peripheral margin). They reported on nevi that had at least a 2-year follow-up, showing a 3% to 4% recurrence. None of the 4 MDN in the study of Goodson et al[5] recurred. Hocker et al[6] had 42 MDN in their study with positive histologic margins (using the criteria for positive margins defined by Goodson et al[5] mentioned above), and a maximum follow-up of 17.4 years. However, recurrence information was not provided. Finally, the earliest study quoted by Kim et al[1] in their PLS article is that of Kmetz et al,[7] whose study included 26 dysplastic nevi (DN) with a maximum follow-up of 6.12 years, but information regarding both histologic margins and recurrence was not given.

From this enumeration, it is apparent that actual data on the recurrence rate of MDN with positive histologic margins are scant. The only study that reports this information is that of Goodson et al,[5] and in their study there were only 4 MDN with positive histologic margins. Given this, we specifically sought to evaluate the recurrence rate of MDN with positive histologic margins. Our data support and extend the conclusion of PLS that MDN with positive histologic margins have a very low recurrence rate and thus do not need to be re-excised.

CAPSULE SUMMARY

- The Pigmented Lesion Subcommittee of the Melanoma Prevention Working Group recommended observation of moderately dysplastic nevi with positive margins.
- Moderately dysplastic nevi with positive histologic margins recur infrequently (4% recurrence rate).
- Routine re-excision of moderately dysplastic nevi with positive histologic margins does not appear to be warranted.

METHODS

Using an institutional review board–approved protocol, the Baylor College of Medicine Department of Pathology and Immunology and Department of Dermatology archives were searched for reports of MDN with positive histologic margins that were not re-excised. The degree of cytologic atypia was assessed as described previously, with atypia being graded mild, moderate, or severe.[8,9] Diagnoses were made by 1 of 5 different dermatopathologists at Baylor College of Medicine. A histologic margin was defined as positive when nevus cells were seen at the margin, as indicated in the pathology report. Other investigators have considered nevus cells within 0.2 mm of the margin to be a positive histologic margin.[5,6] This is reasonable, but we were interested in determining the recurrence rate when nevus cells were present at the histologic margin.

At Baylor College of Medicine Department of Dermatology, the vast majority of MDN were (and are) observed rather than re-excised. MDN were re-excised if there was a family history of melanoma or if the patient requested complete removal. Residual clinical pigmentation did not automatically lead to re-excision. The period selected was from January 1, 2007, to December 31, 2013. The medical records of these patients were reviewed to determine the length of follow-up and recurrence, if any. Patients with less than 1 year of follow-up were excluded from analysis as were those patients who had a subsequent excision to completely excise the DN. The reason for selecting a minimum 1-year follow-up is based on the fact that the majority of nevi recur within 6 months.[10] King et al[11] studied 357 recurrent nevi (of which 28% were dysplastic). Of these, 64% recurred in 6 months, and 85% recurred after 1 year. Their data showed a mean recurrence time of 8 months.[11] Thus, a 1-year follow-up was deemed sufficient for purposes of our analysis.

RESULTS

To put our findings in perspective, 10,967 nevi were biopsied at Baylor College of Medicine Department of Dermatology from 2007 to 2013, as follows: 5967 nevi, 2014 DN with mild cytologic atypia, 2198 DN with moderate cytologic atypia, and 788 DN with severe cytologic atypia. We found a total of 227 MDN with positive histologic margins (as noted in the pathology reports). Of these, 53 were excluded because follow-up data were not available. Of the remaining 174 with follow-up data, 6 recurred with an average recurrence interval of 624 days (20.8 months/1.7 years). The range was 98 to 1162 days, with nevi recurring after 98, 156, 624,

772, 932, and 1162 days. All of these had been evaluated by shave biopsies, and comprised 5 compound DN and 1 junctional DN. A total of 147 nevi had at least a 1-year follow-up available. (This number is reduced to 122 if a 2-year cut-off is used; given prior findings by other investigators, we opted for the 1-year cut-off as indicated above.) Of these, lesion size was available on 101 (69%), with an average size of 4.6 mm, and a range of 1 to 12 mm. Additional clinical information was available on 139 of these 147 cases. The clinical impression of the majority of these lesions was DN (81%), with a small minority (6 cases, ~ 4%) suspicious for melanoma. Margins were clinically free in 40 and were clinically positive in 42 lesions. The shortest follow-up period was 420 days (14 mo/1.17 y) and the longest period was 3138 days (104.6 months/8.72 years). Expressed as a percentage of MDN with at least 1-year follow-up, the recurrence rate was 4%. Please see Tables I and II for additional data.

Table I. Moderately dysplastic nevi with at least 1-year follow-up

Unique MDN	147
Patients	130
Women	76
Men	54
Age range, y	20-82
Shortest follow-up period	420 d (14 mo/1.17 y)
Longest follow-up period	3138 d (104.6 mo/8.72 y)
Average follow-up period	1280 d (42.7 mo/3.56 y)
Total no. of compound MDN	117
Compound MDN evaluated by shave biopsy	109
Compound MDN evaluated by punch biopsy	7
Compound MDN evaluated on excision specimens	1
Total junctional MDN	30
Junctional MDN evaluated by shave biopsy	28
Junctional MDN evaluated by punch biopsy	1
Junctional MDN evaluated on excision specimens	1

MDN, Moderately dysplastic nevi.

DISCUSSION

Our data show the recurrence rate for the largest group of MDN with positive histologic margins for which at least 1 year of follow-up was available. The rationale for selecting a 1-year follow-up is that other investigators have shown that the majority of nevi recur within 1 year.[10,11] We found a very small number of recurrences (6 of 147, or ~4%). This rate is lower than previously reported in several studies,[12-15] and is comparable with the rate reported by Goodson et al,[5] who speculated that the lower recurrence seen in their study may have been a result of deeper shaves performed in an attempt to excise the lesion (rather than superficial biopsies to minimize scarring). However, in our study, all the MDN had atypical melanocytes present at the tissue edge, and so we cannot easily explain why the recurrence rate in our sample is so low. Referring to their own results, Goodson et al[5] rightly remarked that the "lack of greater association of recurrence with margin involvement was somewhat surprising."

An obvious limitation of this study is subjectivity in grading of atypia. It is possible that this may have been offset to some degree by the fact that these diagnoses were made by 5 different dermatopathologists with differing number of years of experience, who had been trained at 4 different institutions.

Subjectivity in the grading of atypia complicates the issue of management of MDN, as does the lack of clear data on whether DN need to be re-excised to prevent melanoma. Our data indicate that nevi interpreted as MDN, however subjectively, have a low rate of recurrence. These data are useful because they are consistent with the recommendations of the PLS of the Melanoma Prevention Working Group. They add to the available information on the subject because, until now, the actual data on recurrence of MDN with positive histologic margins were very minimal, with only 4 such nevi reported in the literature. Secondly, in the only article to document these 4 nevi, a histologic margin was considered to be positive when nevus cells were present within 0.2 mm of the margin. As noted above, this is reasonable because histologic sections are a sample of the entire specimen, and 0.2 mm, being so close to the edge, could be considered a positive margin for all practical purposes (although opinions may differ). However, we were interested in evaluating only those nevi where nevus cells were present at the peripheral tissue edge, for the purposes of making the point of low recurrence more emphatically. The PLS noted that, "…more data are needed to make definitive recommendations in this clinical scenario." We have sought to provide additional data to support and extend this conclusion. In our opinion, given the low recurrence in our sample of MDN with nevus cells detectable at histologic margins, it seems appropriate to not re-excise these lesions.

Table II. Recurring moderately dysplastic nevi, additional information

Recurred MDN size, mm	Clinical impression	Time to recur, d	Procedure shave or punch/CM	Follow-up
8/Compound	Not available	772	Shave/CM free	Re-excised
4/Compound	Dysplastic nevus	624	Shave/CM free	Not re-excised
6/Compound	Dysplastic nevus	156	Shave/present at CM	Removed by saucerization
Not available/ Compound	Dysplastic nevus	1162	Shave/present at CM	Removed by saucerization
5/Junctional	Dysplastic nevus	98	Shave/margin information not available	Removed by saucerization
4/Compound	Dysplastic nevus	932	Shave/CM free	Patient elected to monitor, not re-excised

CM, Clinical margin; *MDN*, moderately dysplastic nevi.

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