Commentary on Hutchinson Sign: Biopsy May Assist in Diagnosis of Subungual Melanoma in Situ

The diagnosis of nail unit melanoma may be delayed for a number of reasons including physician reluctance to biopsy the nail unit, failure of clinicians to recognize the potential clinical presentation of nail unit melanoma, and dermatopathologist unfamiliarity with the sometimes challenging histopathologic features of nail unit melanoma. In this issue of *Dermatologic Surgery*, Oh and colleagues[1] present data regarding a supplemental nail unit biopsy technique that may assist in the diagnosis of nail unit melanoma: a punch biopsy of the Hutchinson sign. The authors present a series of 12 patients who were ultimately diagnosed with nail unit melanoma in situ and had a punch biopsy sample taken from an area of a Hutchinson sign. In their series, 11/12 cases (91.78%) had the Hutchinson sign located at the hyponychium.

From a histopathological standpoint, all the cases showed irregularly scattered melanocytes with hyperchromatic nuclei. However, 2 of the cases demonstrated only subtle changes in the lesional melanocytes, with little nuclear atypia seen (subtle nuclear hyperchromasia and subtle nuclear pleomorphism). In all the cases, the irregularly scattered atypical melanocytes were found mainly in the basal layer of the epithelium, and the sizes of the melanocytes varied from small to large. None of the cases demonstrated melanocytic nests or mitoses. Nine of the cases (75%) had an associated lymphocytic inflammatory infiltrate. The cases either did not show pagetoid spread of melanocytes or demonstrated only focal pagetoid spread of melanocytes. Only 4 of the cases (33.3%) demonstrated confluence of melanocytes.

We applaud Oh and colleagues on their work in furthering the knowledge base regarding the Hutchinson sign. However, we believe that the technique described by the authors is advanced and, if used, should be performed by physicians with expertise in nail surgery and the specimen sent to a dermatopathologist with expertise in nail unit histopathology.

To put the histopathologic findings of melanocytic atypia into context, there must be clear communication from the dermatologist to the dermatopathologist regarding the clinical impression of nail unit melanoma and the exact anatomic location from which the specimen was taken. It is this clinical information which is critical for establishing that the histopathologic features described in this report actually represent the radial growth phase of a nail unit melanoma. If the clinical information is not clearly transmitted to the dermatopathologist, there is a potential for misdiagnosis, contributing to an overall delay in diagnosis. Ideally, photographs should be transmitted to the dermatopathologist, which will allow them to integrate the histopathologic findings of a Hutchinson sign into a clear diagnosis and discussion in the dermatopathology report. An analogous situation on another area of the cutaneous surface would be for a dermatologist to take a small sample of the very periphery of a suspected melanoma on the back. Clearly, this would not yield the most reliable or efficient diagnosis possible.

It is also essential to note that 2 of the 12 samples of the Hutchinson sign described in the report demonstrated both subtle melanocytic nuclear hyperchromasia and subtle nuclear polymorphism. These subtle changes could easily be overlooked by a dermatopathologist either without a clear clinical description or photograph of the nail unit which is biopsied and a dermatopathologist without familiarity with nail unit histopathology.

As we consider sampling of a Hutchinson sign to be an advanced diagnostic technique, we emphasize the classic teaching that nail unit melanocytic lesions with few exceptions should have the nail matrix biopsied to have the most reliable diagnostic outcome. Certainly, we can appreciate the efficiency in sampling a peripheral area of the nail unit over sampling the matrix. However, biopsy for diagnostic purposes from a suboptimal area of the nail unit for diagnostic purposes may actually prolong an accurate diagnosis from being rendered.

Sampling of the Hutchinson sign can cause other diagnostic confusion, when the identified features are benign-appearing. In the cases presented by Oh and colleagues, most specimens had readily identifiable melanocytic cytologic atypia, and in a minority (2/10), such features were present, but subtle. The reader needs to be aware that other histopathologic features of a Hutchinson sign have been reported that did not show any atypia, and simply pigmentation was present.[2] When no atypia is present, this absolutely raises the possibility that the nail lesion overall will be diagnosed as a benign entity, but it is not. Such confusion can be avoided with sampling of the nail matrix.

Some additional words of caution apply. This is a small series of 12 cases, and the results are not statistically significant. Eleven of the 12 cases were samplings of a Hutchinson sign from the hyponychium, and these results may not be applicable to pigmentation at other peripheral areas of the nail unit. Importantly, this case series was limited to nails affected by melanoma in situ and did not include invasive nail unit melanomas. The reader should understand that identification of the histopathologic features of the Hutchinson sign may very well be related to an invasive nail unit melanoma, and treatment decisions should not be made until a final evaluation of

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the entire lesion is made. A larger study will be able to more firmly establish the reproducibility and relevance of these findings.

We agree with the authors that scattered atypical melanocytes in a punch biopsy of Hutchinson sign may provide valuable information to assist in the diagnosis of subungual melanoma. However, we caution that this is an advanced technique that requires mandatory clinical integration with the histopathologic findings, clear communication with the dermatopathologist, and that sampling of the matrix is the gold standard general guidance for the evaluation of pigmented lesions of the nail unit.

References

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Adam I. Rubin, MD*
Bertrand Richert, MD, PhD†
Eckart Haneke, MD, PhD‡
*Department of Dermatology
Hospital of the University of Pennsylvania
Perelman School of Medicine
Philadelphia, Pennsylvania
†Faculté de Médecine et des
Sciences de la Motricité Université
Libre de Bruxelles, Chef de Service
Département Interhospitalier de
Dermatologie CHU Brugmann—HUDERF—Saint-Pierre,
CHU Brugmann, Brussels, Belgium
‡Department of Dermatology
Inselspital, University of Berne
Bern, Switzerland

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