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Division of Dermatology

The Diagnostic and Therapeutic Utility of the Scoop-Shave for Pigmented Lesions of the Skin

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Background: Evaluation and treatment of pigmented skin lesions is one of the most common reasons for dermatologic consultation. The vast majority of these are completely benign in nature without any risk of malignant transformation. However, these pigmented lesions occasionally exhibit more concerning features of dysplasia, ranked from mild to severe in degree. The most concerning pigmented lesion of course is malignant melanoma, whose early detection and efficient treatment is of the utmost importance. Along the same vein, numerous techniques exist for removing these skin findings, both for diagnosis as well as for definitive therapy.

One can shave the lesion using a scalpel or specialized curved razor to remove the epidermal portion with little or no dermal involvement. One can also use a punch biopsy of variable size to either sample a specific area, or to remove the entire lesion in question. A standard excision can also be employed, whereby with the use of a scalpel, the entire epidermis down to the deep dermis (or even deeper in cases) is removed including and surrounding the identified lesion. This is the most definitive form of removal; however, patients must return for suture-removal, are at an increased (albeit small) risk of infection, and are left with a larger scar as compared to the punch biopsy or "shave." Excisions are also the most costly methods of removal. The final technique, which is not widely used among dermatologists, is called the "scoop-shave." This technique involves using a curved blade to more deeply shave a lesion down into the deep dermis. Because the area treated by this method is relatively small, no sutures are placed. This saves the patient a return-visit to the clinic and may be more cost- and time-efficient than some alternative methods.

The "scoop-shave" has some controversy surrounding its use, particularly pertaining to safety. It is the overall accepted standard of care for a practitioner to perform a punch biopsy or excision of suspected dysplastic nevi or melanomas. The reasoning is that, particularly with melanomas, the depth of the lesion of the most important piece of information to obtain, in assessing dysplasia or malignancy, as well as for staging a melanoma. Standard shave biopsies do not adequately assess this depth, and many feel that the "scoop-shave" shares a similar disadvantage.

Objectives: This study sought to assess the diagnostic and therapeutic utility of the "scoop-shave" in treating pigmented skin lesions. More specifically, we wanted to see if this method was indeed safe to perform, and if any melanomas were identified during the study, whether or not the full depth of these tumors was identified using this technique.

Methods: In this open, prospective Institutional Review Board-approved study, all suspected pigmented lesions to be treated at the Division of Dermatology were included. The treating practitioner filled out a survey at the time of the procedure which included the suspected clinical diagnosis (nevus, dysplastic nevus, seborrheic keratosis, melanoma or other) and the practitioner's intent (biopsy, excision or re-excision). Also, the practitioner was given the choice of what technique to use (excision, scoop-shave, shave, punch biopsy or

punch excision). The size and location of the lesion were documented on the chart as was any pertinent information regarding the patient's personal or family history of skin cancer.

The surveys were then collected and the pathology results of each specimen were followed and documented. Particular attention was paid to the status of tumor/lesion margins as well as any comments from the pathologist regarding sufficient or insufficient depth of the specimen in question. The pathology department had no knowledge of this study and no markings were made that could identify these as study specimens.

Any subsequent action taken by the practitioner (observation, excision or re-excision) was also noted and recorded. In this study a total of 203 pigmented lesions were collected over a five-month period.

Results: Of the 203 lesions treated, 57 (28%) were dysplastic nevi (either mild, moderate or severe). Thirty-eight (66.7%) of these lesions were removed via scoop-shave and all but 2 (5.3%) of these were removed with clear margins. An additional single dysplastic nevus (moderate dysplasia), excised via scoop-shave, showed an inadequate deep margin. This is compared to 6 (31.6%) of dysplastic nevi with positive peripheral margins, removed by other, more conventional means. None of these had positive deep margins.

Eight *in-situ* melanomas were identified, all with adequate depth; but 5 (62.5%) of these had inadequate peripheral margins on pathologic examination. Four (50%) of these in-situ lesions were scoop-shaved, again with adequate depth. There were 11 invasive melanomas identified, all with adequate depth. Four (36.4%) of these malignancies had margins <5mm. Four (36.4%) of these melanomas were scoop-shaved, again with adequate depth demonstrated on pathology. On the contrary, 3 benign nevi without any evidence of dysplasia, all removed via standard shave biopsy, showed positive or inadequate deep margins. The same also applied to one congenital nevus.

Conclusions: This study included a total of 19 melanomas, many of which were removed via scoop-shave, with the rest being treated by more conventional means. All 19, including those removed by scoop-shave, had adequate deep margins. This suggests that despite the small "n" in this study, scoop-shave excisions are indeed safe and effective for diagnosing melanomas, be they *in situ* or invasive. Dysplastic nevi, common dermatolopathologic findings, also appear to be safely excised via scoop-shave. Of note, however, the single one dysplastic nevus in this study to be found to have a positive deep margin was removed by scoop-shave. It is difficult to interpret this finding, since was an isolated event, and was graded as a moderately dysplastic nevus. Typically this grade of lesion is treated somewhat conservatively and would ordinarily be followed clinically if the margins were negative, even if only the slightest clear margins were present. However, in this study, the patient underwent re-excision which yielded no residual nevus on pathology.

More statistical analysis is necessary to truly compare the scoop-shave to the other methods of treating and diagnosing pigmented skin lesions. However, based on the data presented thus far, we conclude that the scoop-shave is in fact a safe and viable option for the removal of such skin manifestations.