Five Factors Help Guide Nail Streak Management

BY JEFF EVANS
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WASHINGTON — The technique used to biopsy and treat a nail streak depends on the width of the streak and its location in the nail matrix, Dr. Bertrand Richert said at the annual meeting of the American Academy of Dermatology.

If there is no clue to the etiology of a pigmented band, the decision to perform a biopsy for diagnosis and treatment depends on five factors: the width of the pigmented band, the anatomical location of the band on the nail plate, the site of melanin production in the matrix, the presence or absence of periungual spread of pigmentation (Hutchinson's sign), and the presence or absence of partial nail dystrophy, said Dr. Richert of the nail unit in the department of dermatology at the University of Liège (Belgium).

Most (85%-90%) pigmented bands arise in the distal matrix, which creates the underlying layer of the nail plate. The overlying section of the nail plate, which grows from the proximal matrix, in most cases will then cover defects created in the distal matrix, making it a less likely site for nail dystrophy, he said.

In the distal matrix, pigmented bands narrower than 3 mm can be excised with a punch biopsy. Dr. Richert said that he reclines the proximal nail fold to punch out the origin of the band, but then he reclines "the whole proximal part of the nail plate to visualize the whole matrix area" and to check for any remaining pigment.

It is important to check the underside of the proximal nail plate for pigmentation because the superficial epithelium of the matrix may have been pulled up with the nail plate. The matching point on the matrix will correspond to the origin of the pigmented band. It may be helpful to keep track of the size of the band by marking the skin because little pigment may remain in the matrix once the nail is removed, he said.

For pigmented bands wider than 3 mm, a crescent-shaped biopsy can remove the pigmented area.

Pigmented bands that are located in the lateral third of the nail plate can be removed in one entire piece. Bands that are broader and/or irregular may require removal of the whole band, which creates a large defect that can be repaired with a flap and a relaxing incision to close the defect.

If there is periungual spread of pigmentation, then the whole nail unit should be removed with a 6-mm margin all around the nail apparatus because the lesion is "very likely to be melanoma," Dr. Richert said. Amputation may be necessary for melanoma.

In many cases, toes can be healed by secondary intention when the whole nail bed is removed, but Dr. Richert "highly recommends" a full-thickness graft for fingers.

A Schernberg and Amiel releasing flap is required to close a defect that is created from the removal of a pigmented band in the proximal matrix less than 6 mm wide, but the flap "almost always results in a split nail," he said.

It is necessary to remove the whole nail unit for bands in the proximal matrix that are greater than 6 mm in width, even if the malignancy status of the lesion is unknown.

Patients may be distressed to lose much or all of the nail apparatus for the removal of only a nevus, but they also are relieved to know they do not have melanoma, Dr. Richert said. In an effort to reduce disfiguring surgery for what may be a benign pigmented lesion, he has experimented with shave biopsy to remove pigmented areas of the proximal matrix. A shave biopsy removes material to a depth of about 0.5 mm, whereas the average thickness of the punch biopsy is 2.5 mm. He has used the shave biopsy method to diagnose melanocytic activation and melanocytic hyperplasia in the proximal matrix, but has not yet detected in situ melanoma.

The shave biopsy technique is easier to perform if a small incision is made next to the site of melanin production in the matrix. This will allow the specimen to "pop out a little bit so it's easy to shave," he said.

It may be difficult to get all areas of pigmentation with the shave biopsy technique because it is hard to obtain an even shave across curved surfaces of the nail matrix. This makes it important to recline the whole proximal nail fold to expose the entire matrix to perform a correct shave, Dr. Richert said.

The not-yet-validated technique may not be good for shaving the lateral horns of the matrix because it is "very difficult" to perform a complete shave of the pigmented area, he said. ■