Shave Biopsy May Impair Correct Melanoma Staging

However, concerns that cutting through cancers may disperse cells and harm patients appear unfounded.

BY JANE SALODOF MACNEIL
Senior Editor

PHOENIX — Although cutting through a melanoma during a shave biopsy may make reaching an accurate prognosis more difficult, it probably will not harm the patient, Dr. Darrell Rigel said at a clinical dermatology conference sponsored by Medicis.

Dr. Rigel, who is with New York University Medical Center, New York, said that two recently published studies addressed the concern that cutting through certain cancers during a biopsy can disperse tumor cells and worsen prognosis. It probably is not harmful in melanoma patients, he said.

The studies he cited compared excisional with incisional biopsies.

In the first study, investigators from Carolinas Medical Center in Charlotte, N.C., reported that 22% of shave biopsies had positive deep margins (Ann. Surg. Oncol. 2007;14:893-98). In the second study, investigators from the Free University Hospital, Amsterdam, found that use of incisional biopsies did not have a negative impact on survival (Ann. Surg. Oncol. 2007;14:1424-30).

"So at least if you accidentally shave through a melanoma, you [probably] haven't harmed the patient," Dr. Rigel said. "However, you may have harmed your ability to get the right prognosis for the patient." Thinner melanomas have a better prognosis, he noted, but tumor thickness is harder to determine in patients with deep positive margins.

In the first study, Dr. Richard L. White Jr. and his colleagues analyzed pathology reports from Jan. 1, 2004, through June 30, 2005, for 223 cases of primary melanoma.

Although the National Comprehensive Cancer Network and the American Academy of Dermatology have each designated excisional biopsies with narrow margins as the preferred method for diagnosing primary cutaneous melanoma, more than half the biopsies were done with the easier, faster shave technique. The sample comprised 51 excisional biopsies, 44 punch biopsies, and 128 shave biopsies. Three-fourths (167) of the specimens analyzed were from thin melanomas (1 mm or less).

Only 16% of excisional biopsies had positive margins. Just 2% were positive deep margins, and none were found in specimens from the thin melanomas.

Punch biopsy specimens also had no positive deep margins in the thinner melanomas. Positive margins were more common overall (68%), but were mostly wide margins attributable to the punch technique. Only 7% of all punch biopsies had positive deep margins.

Half of all shave biopsies produced positive margins, including the 22% that had positive deep margins. The analysis revealed positive deep margins for 17% of the thinner melanomas sampled by the shave technique.

Shave biopsy was most commonly done for thinner melanomas. It also produced samples that were significantly thinner. A review of 56 specimens showed the average biopsy thickness to be 1.41 mm with the shave technique, 3.58 mm with the punch method, and 3.19 mm for excisional biopsies.

"Based on these data," the authors concluded, "we encourage the use of an excisional biopsy technique for all skin lesions where melanoma is in the differential diagnosis when excision is feasible."

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In the second study, Dr. Paul A.M. van Leeuwen and his colleagues in the Netherlands prospectively studied 471 patients who were diagnosed with stage I or II melanoma after partial removal of a skin lesion. Most of the patients had a superficial spreading melanoma (65%) or a nodular melanoma (26.7%). Average follow-up was 5 years or more.

The investigators divided the population by biopsy type: wide excision biopsy (279 patients), narrow excision biopsy (109), excision biopsy with positive margins (52), and incision biopsy (31). Biopsy type did not prove to be significant in univariate or multivariate analyses of disease-free survival or overall survival. The presence of residual tumor cells in reexcision specimens for 41 patients also was not significant.

"Incisional biopsies are not recommended, but there is no cause for concern when an excision biopsy turns out to have positive margins," the authors concluded.

In a telephone interview, Dr. Randall K. Roenigk agreed that both studies make good points, but he said that they are not likely to dissuade physicians from doing shave biopsies.

"If you do a shave and miss the depth of the specimen, you miss a key bit of information—the thickness of the melanoma. Your decision-making tree could be compromised," said Dr. Roenigk, professor of dermatology and chair of the department of dermatology at Mayo Medical School, Rochester, Minn.

"On the flip side, it is easier to do a shave biopsy," he continued, citing the time required for an excisional biopsy, the delay in diagnosis until an excisional biopsy can be scheduled, and the reality that some patients won't come back for the procedure.

He suggested that, as a result, doing more shave biopsies can mean more melanoma diagnoses, even though excisional biopsies are more comprehensive. From Dr. Roenigk's perspective, the studies demonstrate the importance of doing deep biopsies even when the suspected melanoma appears to be thin.

"You shouldn't be shy about taking extra tissue when you are thinking about a melanoma. It should be a thick, deep shave," he said. "If you are thinking about melanoma, you shouldn't worry about the scar." ■

Expert Reviews Evidence for Melanoma Excision Margins

BY BRUCE JANCIN
Denver Bureau

MAUI, HAWAII — Evidence from randomized clinical trials indicates that excision margins of 2 cm are optimal for primary melanomas greater than 2 mm thick, Dr. Merrick Ross said at the annual Hawaii Dermatology Seminar sponsored by Skin Disease Education Foundation.

That's good news for patients, because 90% of surgical defects resulting from a 2-cm–wide excision margin on the trunk or a proximal extremity can be closed primarily without grafts, noted Dr. Ross, Charles McBride Professor of Surgery and chief of the melanoma section at the University of Texas M.D. Anderson Cancer Center, Houston.

"The take-home message is we probably don't need wider margins than 2 cm for any melanoma. But we shouldn't be cavalier about our margins of excision because very narrow margins—particularly 1 cm for the thicker melanomas—may not be adequate and will have a negative impact on the natural history," he said.

Empirically based 5-cm excision margins were standard for most of the 20th century. Beginning in about 1970, however, surgeons began to adopt narrower margins for thinner melanomas with good clinical results.

The contemporary era of evidence-based excision margins rests upon five prospective randomized trials that attempted to define the margins, optimizing the chance for durable local control while minimizing surgical morbidity and cost.

These trials established 1-cm margins as the standard for thin melanomas, defined as those with a Breslow's depth of invasion of less than 1 mm. For tumors measuring 1-2 mm in thickness, the trials suggested margins of 1-2 cm.

The 2-cm margins for melanomas thicker than 2 mm favored by Dr. Ross and other surgical oncologists were arrived at by examining the results of two complementary randomized trials. One was an as-yet-unpublished study by the Swedish Melanoma Study Group that randomized 644 patients with such melanomas to wide excision with either 2- or 4-cm margins. Rates of locoregional recurrence or death from melanoma proved no different in the two groups (Skin & Allergy News, December 2005, p. 36).

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DR. ROSS

The other relevant trial was conducted by the United Kingdom Melanoma Study Group. In that trial, 900 patients with melanoma measuring at least 2 mm in thickness were randomized to 1- or 3-cm excision margins. The 1-cm group had a 26% increased relative risk of locoregional recurrence during a median 60 months of follow-up (N. Engl. J. Med. 2004;350:757-66).

"For lesions thicker than 2 mm, a 3-cm margin is better than 1 cm based on the U.K. trial in terms of locoregional events," he said. But based on the Swedish trial, if a 4-cm margin is not better than a 2-cm margin, then a 3-cm margin can't be better than a 2-cm margin. "So by default, our standard is a 2-cm margin," Dr. Ross explained.

The standard margin for melanoma in situ is 5 mm. Unlike the recommendations for true melanoma, the standard for melanoma in situ is not based upon prospective randomized trial data. It's simply accepted practice based upon extensive clinical observation and experience indicating that the risk for local recurrence is extremely low with 5-mm margins. This sets a precedent that may be relevant to the future status of Mohs surgery for melanoma, he continued.

Critics of Mohs for melanoma argue it is not the standard of care and is unlikely to offer a cost advantage over standard excision, so therefore it should be evaluated in a randomized trial before gaining acceptance.

"I'm not convinced that's true," Dr. Ross said. "First of all, that trial is never going to be done. Second, we didn't use randomized clinical trials to set standards for melanoma in situ. Once we get a body of literature that's very robust and shows very good outcomes for Mohs surgery, it may become a standard of care."

He predicted that Mohs will be a niche procedure in melanoma. It is most likely to prove advantageous for thin melanomas in anatomically difficult locations, such as the head and neck, as well as for lentigo maligna melanoma, in which subclinical disease is often present at a considerable distance from the primary tumor.

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