Partial Biopsies of Lesions Leave Room for Error

BY KERRI WACHTER

Misdiagnosis of melanoma is a major cause of litigation against both physicians and dermatopathologists.

Of all claims between 1985 and 2001, 14% involved misdiagnosis of melanoma, Dr. Ashfaq A. Marghoob reported at the annual Hawaii Dermatology Seminar sponsored by Skin Disease Education Foundation.

Furthermore, the majority of claims involving the misdiagnosis of melanoma were because of a false-negative diagnosis, which may translate to a reduced chance of survival for some patients, said Dr. Marghoob, who is a dermatologist at Memorial Sloan-Kettering Cancer Center in New York.

Two important strategies can help minimize missing melanoma, he said.

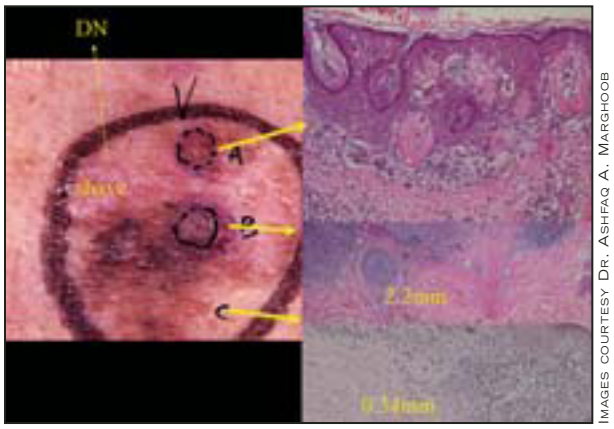
First, remain vigilant and remember that many melanomas lack the classic ABCD features. "Questioning yourself and your pathologist regarding the diagnosis will help towards identifying many of these melanomas. In other words, remain skeptical of lesions lacking clinical-dermoscopy correlation or lesions lacking dermoscopy-histopathology correlation.

"Second, engage patients in their own care by having them share the responsibility of detecting early melanoma by encouraging them to examine their own skin on a regular basis," he said.

Some melanomas may not manifest concerning features, and can mimic benign lesions. To ensure that a malignant melanoma will eventually be found, both periodic total body examinations by a physician and regular patient self-examinations are key.

Although it is widely accepted that early detection means better prognosis, modest delays of up to 6 months have not been shown to affect ultimate outcomes. However, there is one exception: Nodular melanoma can grow rapidly, and even small delays in diagnosis can have serious consequences.

The most common scenarios in melanoma litigation cases include nodular melanoma being misdiagnosed by a clinician or pathologist, a partial biopsy not capturing the most diagnostically relevant part of the lesion, malignant melanoma being misdiagnosed as a dysplastic or spitz nevus, unrecognized desmoplastic malignant melanoma, and metastatic malignant melanoma with an unknown primary or recurrence of melanoma (Am. J. Surg. Pathol. 2003;27:1278-83).



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Partial biopsies of this melanoma yielded results ranging from Clark's nevus to invasive melanoma.

Dr. Marghoob discussed these common scenarios:

► **Misdiagnosis of nodular melanoma as nevus by a clinician or pathologist.** Many nodular melanomas lack helpful diagnostic features, such as those in the ABCD criteria for malignant melanoma, which can lead to a misdiagnosis. However, the ABCDE criteria that take lesion evolution into account may be of some help, Dr. Marghoob noted.

To track lesion evolution, ask patients about the history of changes and symptoms. Total body photography may help on rare occasions to detect new lesions, some of which may be subtle. Dermoscopy results may persuade the clinician to obtain a biopsy of a clinically banal–appearing lesion that is in fact a nodular melanoma.

► **Partial biopsy issues.** If a biopsy is performed of a lesion that clinically looks like melanoma and the pathology diagnosis is nevus, it is imperative that the clinician and pathologist reconcile the difference. In cases where there is discordance, consider asking for step-sectioning, special stains, or—in very rare instances—fluorescence in situ hybridization to look for signature chromosomal aberrations. Excisional biopsy is the preferred method for melanocytic lesions, when possible, because partial biopsy may sample nondiagnostic areas or miss the prognostically worse portion of the lesion.

"Partial biopsy assumes that a clinician can consistently predict the portion of a suspicious pigmented lesion that will have the worst representative histology," Dr. Marghoob said. In one study, 40% of excised melanomas had worse pathology, compared with initial punch biopsy, and 20% of melanomas revealed invasion that was not seen in initial punch biopsy (Arch. Dermatol. 1996;132:1297-302).

The ideal biopsy is excisional with a 2- to 3-mm margin, is oriented along the lines of lymphatic drainage, and is step sectioned. This limits sampling error, removes dysplastic nevus completely (preventing recurrence), and better predicts the Breslow depth if the lesion proves to be a melanoma, Dr. Marghoob said.

► **Misdiagnosis of a melanoma as dysplastic or spitz nevus.** When a partial biopsy reveals dysplastic or spitz nevus, it is important to completely excise the lesion. Malignant melanoma can sometimes masquerade as a spitz nevus, and focus of malignant melanoma may have been missed on the biopsy. Many dermatologists are of the opinion that spitz nevi should be completely excised, he said.

► **Unrecognized desmoplastic malignant melanoma.** Desmoplastic melanoma can be banal in appearance, with 70% appearing amelanotic, he said. These lesions may only present as firmness in the subcutaneous tissue. For banal-appearing firm lesions on chronically sun-damaged skin, suspicion should be raised if the lesions are symptomatic, growing, associated with a lentigo maligna, or reveal irregular vessels with dermoscopy, Dr. Marghoob said.

► **Metastatic melanoma with unknown primary or recurrence of melanoma.** Whenever possible, do not remove seemingly benign lesions and discard them, he said. Also, be careful and selective about the use of liquid nitrogen or a laser on lesions that have not been confirmed to be benign through biopsy.

He noted that cases of assumed benign lesions that recur after ablation (via liquid nitrogen, curettage, or laser) may ultimately prove to be melanoma on histopathology. Furthermore, in the unlikely event that a patient develops metastatic melanoma with an unknown primary, it may be presumed that one of the ablated lesions was the primary. ■

Disclosures: *Dr. Marghoob disclosed having no conflicts of interest. SDEF and this news organization are owned by Elsevier.*

About 5% of Melanoma Patients Have Subsequent Melanoma

BY DOUG BRUNK

SAN DIEGO — The chances of a patient's developing multiple primary melanomas over a lifetime is a real phenomenon, with an incidence ranging from 2% to 8% among patients who have had a first melanoma, or an average of about 5%.

"That's significantly higher than if we apply the risk of melanoma to all fair-skinned people in the country," Dr. William M. Burrows observed at a melanoma update sponsored by the Scripps Clinic.

Of patients who develop additional melanomas, about 80% develop one in addition to the original, 15% develop two, and the remainder develop three or more.

"In my practice I have about four people I follow who have had five or six primary melanomas," said Dr. Burrows, who has practiced dermatology for nearly 40 years and is currently with the division of dermatology at Scripps Clinic Rancho Bernardo in San Diego.

He went on to note that the risk of multiple primary melanomas is twofold higher among men, and that the majority of subsequent primary melanomas (70%) occur on a different anatomical site, while 30% occur on the same site. "They have the same distribution as melanomas in general," he said.

'I have about four people I follow who have had five or six primary melanomas.'

DR. BURROWS

The majority of subsequent primary melanomas occurs after 2 months, while 30% occur within 2 months or less.

Depth of invasion is similar to national statistics for all primary melanomas. "But the second primary melanoma tends to be thinner than the first one, which makes sense," Dr. Burrows commented. "After the first primary melanoma we raise our index of suspicion on lesions that are irregular. In addition, the patient has a significant level of worry."

Recognized risk factors for multiple melanomas include presence of atypical/dysplastic nevi, family history, and early age of onset.

According to a retrospective review of 1,258 melanoma patients treated at the Scripps Clinic between 1990 and 2000, 149 (12%) developed multiple primary lesions, which is more than double the national incidence. "This could be due to one of two things," Dr. Burrows said. "One is the criteria that are used in making the diagnosis of melanoma in situ. I wonder if we [at Scripps] diagnose melanoma in situ more often, as opposed to others who might sign it out as atypical melanocytic hyperplasia or another worrisome diagnosis."

The other possibility is that incidence of melanoma is rising. "We know that we are making the diagnosis of primary melanomas at a younger age than we did 20 years ago," Dr. Burrows said.

In the Scripps series, 75% of patients had two primary melanomas, 15% had three, and the remainder had four or more. The average age at initial primary melanoma diagnosis was 64 among men and 56 among women.

Nearly half of the patients (49%) developed subsequent melanomas less than 3 years after their initial primary melanoma diagnoses.

When managing patients with multiple melanomas, a full skin exam during initial work-up and follow-up intervals is essential, he said. "Follow-up should be lifelong." ■

Disclosures: *Dr. Burrows said he had no financial conflicts.*