'Ugly Duckling' Melanoma Screen Is Easy, Effective

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WAIKOLOA, HAWAII — The "ugly duckling" sign showed impressive sensitivity for melanoma when applied by physicians as well as nonmedically trained individuals for rating melanocytic lesions, according to Dr. Ashfaq A. Marghoob.

The results of this study suggest the ugly duckling sign may be a valuable melanoma screening tool readily teachable to primary care physicians, nurse practitioners, and patients performing periodic skin self-examination, Dr. Marghoob reported at the annual Hawaii dermatology seminar sponsored by Skin Disease Education Foundation.

"Could this be a new public health message?" he asked. "For the last 20 or 30 years we've been talking about the ABCD features, but maybe we could add something along the lines of, 'Look for the ABCD features, but if you see a lesion on your skin that looks different than the surrounding lesions on your skin—even if it doesn't have the ABCDs—see a dermatologist.' "

The ugly duckling sign was first described in 1998 by Dr. Jean-Jacques Grob of the University of Marseille in Provence, France. It holds that nevi on a given individual tend to resemble each other: "Moles breed true," said Dr. Marghoob, a dermatologist at Memorial Sloan-Kettering Cancer Center, New York.

The ugly duckling—the outlier, the exceptional nevus, the one that looks different from the others—is more likely to be a melanoma, even if it does not exhibit the classic features ascribed to melanoma in the ABCD rule.

The ABCD acronym "has served us well" in the early recognition of melanoma, said Dr. Marghoob, but it has shortcomings: There is morphologic overlap with dysplastic nevi, resulting in many unnecessary excisions. Also, the ABCD criterion does not fit for many thin melanomas.

To test the utility of the ugly duckling sign when applied by a diverse group of people, Dr. Marghoob and coinvestigators assembled a portfolio of digital photographs of the backs of 12 patients at high risk for melanoma. Each of the patients had at least eight dysplastic nevi on their back.

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In five patients, one of the skin lesions was a melanoma which was removed and histologically confirmed after the pictures were taken. The photo spread included whole-back overview images as well as clinical closeups of a total of 145 lesions.

The lesion raters consisted of 13 general dermatologists, 8 dermatologists with special expertise in pigmented lesions, 5 nurses, and 8 secretaries and other nonclinical hospital staff. They were asked if any of the 145 nevi differed from the others on the patients' backs.

There was excellent agreement on the ugly duckling sign among observers. All five melanomas but only 3 of 140 benign nevi were identified as ugly duckling lesions by at least two-thirds of the raters. The sensitivity of the ugly duckling sign—that is, the percentage of melanomas identified as "different"—was 100% for the experts, 89% for the general dermatologists, 88% for the nurses, and 85% for the nonclinicians. For the overall group, the sensitivity of the ugly duckling sign was 90% (Arch. Dermatol. 2008;144:58-64).

That 85% sensitivity when the ugly duckling sign was applied by nonclinicians is much higher than the percentage seen in studies of the ABCD method, Dr. Marghoob observed.

He noted that the overall melanoma survival rate in the United States has soared from less than 60% in 1970 to greater than 90% in 2008. This extremely impressive gain is mainly a result of improved detection of early disease, since there are still no effective systemic therapies for advanced melanoma.

Widespread adoption of the ugly duckling sign could be a further step forward in early diagnosis of melanoma. Total body photography, dermoscopy, and confocal microscopy are additional tools likely to lead to further improvements, he said.

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