

Ethnic Skin Differences Quantified in Two Studies

BY DAMIAN McNAMARA
Miami Bureau

MIAMI — Although some skin features vary by ethnicity and with age, researchers found no significant seasonal differences in skin smoothness or dryness between African American, Chinese, white, or Hispanic women. In a second comparison, color heterogeneity and yellowness were the primary skin differences among these ethnic groups.

“There is a paucity of data when it comes to trying to quantify properties of ethnic skin,” Felicia Dixon, Ph.D., said at an international symposium sponsored by the L’Oréal Institute for Ethnic Hair and Skin Research.

The investigators studied 214 women aged 18-87 years in the summer of 2004 and again, 6 months later, in the winter of 2005. There were 91 African American, 47 Chinese, 41 white, and 35 Hispanic women.

“There are drastic changes in temperature in Chicago between summer and winter, while humidity is about the same,” said Dr. Dixon, a researcher at L’Oréal USA Inc. in Chicago. She presented the results for Stephane Diridollou, Ph.D., also of L’Oréal USA, who was unable to attend the meeting.

The researchers compared skin microrelief, dryness features, mechanical properties, and sebum function between groups. They also looked for differences in

the epidermis, subepidermal nonechogenic band, papillary dermis, and dermis.

Microrelief and dryness were measured using a SkinChip sensor (jointly developed by L’Oréal and STMicroelectronics). This device features about 92,000 microsensors in a sensor slightly larger than a penny. The image analysis software quantified skin smoothness and dryness at three sites—the cheek and dorsal and ventral sides of the arm.

The ventral arm sites were smoother than the dorsal sites during both seasons, and the dorsal skin became rougher from summer to winter. “Yes, in winter, there was an increase in dryness of the skin at the three sites. But there were more changes on

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the dorsal arm and cheek versus the ventral arm, related to exposure to the elements,” Dr. Dixon said.

The seasonal differences in dryness were not statistically significant between groups. “All ethnic groups seem to respond the

same way,” she said at the meeting, which was also sponsored by Howard University.

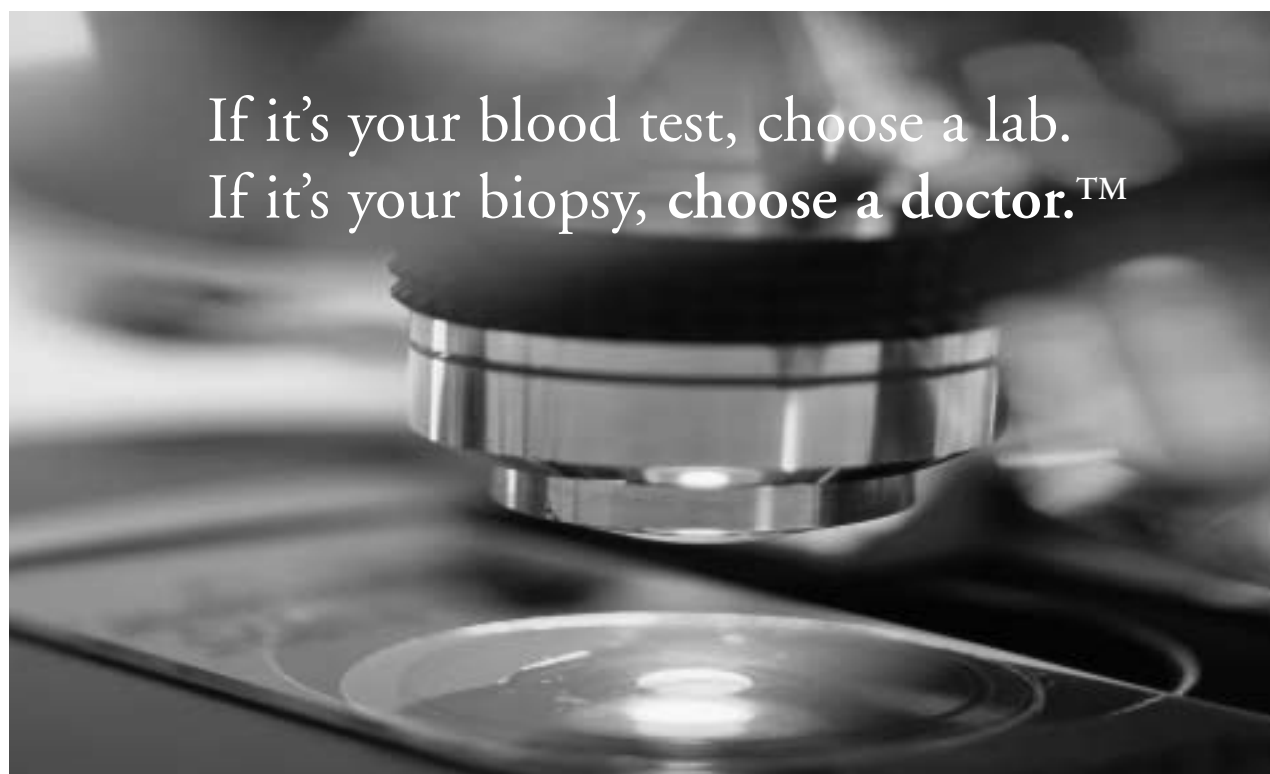
With aging, white women showed more changes in microrelief, elasticity, and skin structures. These changes were not observed among African American women. “It’s not lost on this audience that black women tend to age well, so to speak,” Dr. Dixon said. “What was unique for the African American women was the uneven skin tone as a function of age.”

In a second comparison, Jean Paul de Rigal, Ph.D., and his associates assessed 387 women for skin color and color heterogeneity. They compared 122 African Americans, 120 Chinese, 81 whites, and 64 Hispanics aged 20-90 years.

Any differences in forehead or cheek color characteristics were detected using standardized whole face images taken with the L’Oréal Chromasphere. The device diffuses light in a spherical manner around the face and allows for precise color measurements without any shadows, said Dr. de Rigal, a research engineer at L’Oréal Inc. in Chevilly-Larue, France.

Skin color heterogeneity was highest among African American and Hispanic women. On the forehead, color heterogeneity decreased from African American to white participants, “with Chinese and Hispanic women in between, and more or less identical,” Dr. de Rigal said. For all women, there was lower color heterogeneity on the forehead, compared with the cheeks. Again, African Americans displayed the most color heterogeneity on the cheek area, followed by Hispanics.

The redness component of skin did not vary significantly between groups. The yellow component, however, did vary by ethnicity. Yellowness was higher in Hispanic and Chinese skin, compared with African American and white skin. ■



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Terry L. Barrett, M.D., is the director of ProPath Dermatopathology. He is board certified in Dermatology, Dermatopathology, and Anatomic and Clinical Pathology, and is a clinical professor of Pathology and Dermatology at the University of Texas Southwestern School of Medicine.

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