Prominent Mental (Chin) Creases: A New Sign of Pseudoxanthoma Elasticum

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Dr. Mark Lebwohl, Dr. Lionel Bercovitch and Eve Lebwohl, researchers from the Departments of Dermatology at the Mount Sinai School of Medicine, Brown Medical School and PXE International recently published a study where they identified a new clinical sign of PXE. They studied 47 subjects with biopsy-proven PXE and a control group of 47 subjects not affected by PXE and matched by gender and age. The subjects ranged in age from 18 to 75 years, with a mean age of 50 years for both groups. In each group, 17 of the subjects were male and 30 were female.

Drs. Lebwohl and Bercovitch photographed the subjects and Ms. Lebwohl evaluated the slides without knowing who was or was not affected by PXE. Ms. Lebwohl measured the horizontal component of the chin creases (clinically known as mental creases) on the subjects’ faces. The depression of the skin on a horizontal axis from the furthest point on the left to the furthest point on the right was measured and compared between the subjects with PXE and the control group. To correct for differences in facial size caused by photography or natural factors, the length of the mental crease was divided by the width of the face through a horizontal line going through the mouth where the lips join. Therefore, the results are expressed in a ratio of the horizontal length of the chin crease in centimeters compared to the horizontal width of the face in centimeters as measured through the mouth where the lips join.

They found that 43 of the 47 subjects affected by PXE had prominent chin creases as compared to 13 of the 47 control subjects. Chin creases were present in all
ages in individuals affected by PXE, from the youngest at 18 years to the oldest at 74 years. In the control group, chin creases were much less common but their frequency increased with age. As a marker of PXE, chin creases were present in subjects under the age of 30 years, affecting two thirds of the subjects with PXE but no agematched control subjects. Under the age of 50, chin creases were also an indicator of PXE, affecting 21 of the 24 subjects with PXE but only 5 of 24 age-matched control subjects. After the age of 50, 22 of the 23 subjects had chin creases compared to 8 of the 23 control subjects. Both ratio differences and mental crease proportions showed statistically significant differences between PXE and non-PXE participants.

The precise cause of chin creases is not known. The researchers speculate that their development in people affected by PXE may either be a result of deterioration of elastic tissue in the lip and chin, or blood vessels supplying the jaw. The researchers conclude that the finding of a horizontal chin crease in the presence of central vision loss, arterial occlusive disease, or acute gastrointestinal hemorrhage should prompt physicians to examine their patients for other features of PXE.

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