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Age-related morphometric changes of inner structures of the skin assessed by in vivo reflectance confocal microscopy.

Kawasaki K, Yamanishi K, Yamada H. *Int J Dermatol.* 2015 Mar;54(3):295-301. doi: 10.1111/ijd.12220. Epub 2014 Sep 30.

ABSTRACT

BACKGROUND: In vivo reflectance confocal microscopy is a useful technique for non-invasive biometry of cutaneous inner structures. In this study, the changes in the inner structures were examined in a wide age range of healthy Japanese using this technique. **MATERIALS AND METHODS:** Skin on the flexor side of the arm and on the face, which represent sun-protected and sun-exposed sites of the skin, respectively, was examined in 52 healthy Japanese subjects aged 6 months-81 years old using a reflectance confocal microscope VivaScope(®) 3000. **RESULTS:** The size of granular cells increased with age and was larger in the group aged over 50 years than in the young group aged 18-21 years old, at both sites. The size of prickle cells also increased with age in the face but not in the arm. The size of dermal papillae measured at depths of 50 μ m ($Z = 50 \mu$ m) and 80 μ m ($Z = 80 \mu$ m) from the surface decreased with age. The size at $Z = 80 \mu$ m was smaller in the older group than in the younger group at both sites. However, the mean size of granular cells and dermal papillae was smaller in the face than in the arm. The number of dermal papillae decreased with age in the arm at $Z = 50 \mu$ m and in the face at $Z = 80 \mu$ m. **CONCLUSIONS:** Skin aging may be reflected in the size of granular and prickle cells and dermal papillae, and the extent varies in each sun-exposed or sun-protected skin site. © 2014 The International Society of Dermatology. PMID:25267556 DOI:10.1111/ijd.12220