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In Vivo Reflectance Confocal Microscopy of Gold Microparticles Deposited in the Skin. A Case Report on Cutaneous Chrysiasis.

Fuchs CSK, Ardigo M, Haedersdal M, Mogensen M. Lasers Surg Med. 2020 Jan;52(1):13-16. doi: 10.1002/lsm.23179. Epub 2019 Nov 10.

ABSTRACT

Cutaneous chrysiasis is gold deposition in the dermis, described after parenteral administration of gold salts or after topical exposure to gold-containing materials. Gold microparticles (GMPs) have versatile therapeutic effects and are increasingly used in medicine. This case report describes the development of a blue-gray macule following the facial application of GMPs and laser treatment of acne vulgaris. Dermoscopy showed a nonspecific homogenous blue-gray pattern, gradually fading over an 8-month-period. Reflectance confocal microscopy (RCM) detected hyperreflective, subcellular particles in the papillary dermis, localized around hair follicles, eccrine glands, and inside macrophages. Histopathological evaluation, darkfield illumination with hyperspectral imaging, and neutron activation analysis confirmed the presence of GMPs in the dermis. RCM allowed non-invasive fast visualization of aggregates of hyperreflective particles in the dermis and can potentially be used for monitoring localized cutaneous chrysiasis and other metal deposition conditions over time. *Lasers Surg. Med.* © 2019 Wiley Periodicals, Inc. **KEYWORDS:** acne vulgaris; gold microparticles; laser treatment; localized chrysiasis; reflectance confocal microscopy PMID: 31709601 DOI: 10.1002/lsm.23179