



LASERS

LOCALIZED CHRYSIASIS INDUCED BY Q-SWITCHED ALEXANDRITE LASER THERAPY

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Background: Laser induced chrysiasis, being described as permanent blue-gray pigmentation of the treatment site, is a very rare yet significant complication in individuals who have received systemic gold salts and afterwards undergo Q-switched laser treatment. A 62 year-old Caucasian woman presented to our clinic seeking treatment of solar lentigines located on her face and dorsal aspect of hands. She had a medical history of rheumatoid arthritis, not receiving any relevant medications at that moment or in the recent past. The physical examination did not reveal any other abnormal skin color on sun-exposed areas apart from the brown macules to be treated. She had never been treated before with any kind of laser.

Observation: A Q-switched alexandrite laser was used (755nm, 50 nanoseconds, 5.5 J/cm², 1 pulse of a 3-mm spot diameter per site, 3 different sites), causing immediately visible blue-black discoloration in a slightly wider area than the spot, resembling a blue-halo effect. Further inquiry over her past medical history about rheumatoid arthritis revealed that she had been treated with methotrexate and prednisone, but also that she had received a 10-year gold salt regimen more than 15 years prior to the date. The total gold salt uptake could not be determined. One month later follow-up revealed the 3 blue macules remaining unchanged and nonablative fractional laser resurfacing was performed (15mJ, with a density of 300 microthermal treatment zones/cm²), with following pigment reduction estimated by 20 percent one month later.

Key Message: Localized chrysiasis induced by Q-switched laser therapy may take place even decades after discontinuation of gold salt administration. It is crucial that all candidates for Q-switched laser therapy -most importantly elderly ones- are specifically inquired for rheumatoid disease medical history and relevant previous gold salt therapy.

