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Photoaging in outdoor workers: marker of cumulative UVR exposure, risk factor or occupational disease?

Sartorelli P, d'Hauw G, ¹ Paolucci V

Unit of Occupational Medicine AOU Senese, Department of Medical Biotechnology, University of Siena, Siena, Italy

¹ UF PISLL AUSL Tuscany South-East, Grosseto, Italy

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Introduction: Photoaging is characterized clinically by wrinkle formation and pigmentary alterations and histologically by deposition of elastotic material in the dermal connective tissue of the dermis (solar elastosis). These undesirable changes, in addition to an increased fragility of the skin, have an important epidemiologic significance because sun damaged skin increases the incidence of non melanoma skin cancers (NMSC). For this photoaging is a real medical problem, not just an aesthetic concern.

How to measure photoaging: There is no single method available to give accurate quantification of the degenerative changes associated with photodamage. In the last few years a number of authors used different methods as a measure of photoaging (e.g. confocal microscopy, microtopography and photographic scales). At the moment there is no agreement on how to assess photoaging.

How to consider occupational photoaging: The functional and anatomical damage from solar radiation being characteristic, photoaging would be considered as a chronic disease. However there is a lack of methods of determining the level of photodamage and distinguishing photoaging from chronologic aging. Today the better knowledge of the pathophysiological mechanisms of photoaging allows the study of photo(aging)protective substances and of care for photoaged human skin. In this sense skin photodamage in outdoor workers could be considered as a risk factor.

Conclusions: Even if photoaging is determined by a dose-dependent anatomical damage, considering it as an occupational disease would be not appropriate. Clinical features of photoaged skin can be useful to characterize the cumulative exposure level in working populations (1), while in the individual cases skin photoaging represents a NMSC risk factor which must be taken into account for possible preventive and therapeutic measures.

References:

1. Sartorelli P, Romeo R, Paolucci V, *et al.* Skin photoaging in farmers professionally exposed to ultraviolet radiations. *Med Lav* 2013; **104**:24-29

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