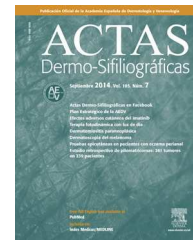




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RESIDENTS FORUM

Daylight Photodynamic Therapy[☆]

FR - Terapia fotodinámica luz de día

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PALABRAS CLAVE

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Photodynamic therapy (PDT) is one of the treatment options for nonmelanoma skin cancer and is considered to be the first-line treatment for multiple actinic keratoses (AKs) and field cancerization.

Various studies in recent years have described the use of daylight PDT in the treatment of nonhyperkeratotic AKs. The technique has also been reviewed in a consensus statement by the International Society for Photodynamic Therapy in Dermatology.¹

As we know, PDT consists in applying of a photosensitizer that causes the accumulation of protoporphyrin IX (PpIX) in the cell interior and then using light of an appropriate wavelength to activate the PpIX, causing cell death. PpIX

has its highest absorption peak at 410 nm as well as other peaks in the visible spectrum. It is therefore possible to activate PpIX with the blue light (440–500 nm) and red light (625–740 nm) lamps that are normally used, as well as with visible light (400–700 nm).

Studies on the use of daylight PDT have reported similar results to those obtained with conventional PDT in the treatment of grade I or II AKs (71% reduction in lesions with conventional PDT vs 79% with daylight PDT).² Daylight PDT is also less painful for the patient and less laborious and time-consuming for health professionals. The main limitations of daylight PDT are the difficulty of planning due to weather variations and the climate in some geographical areas³ and the loss of medical control during the irradiation period.

The first studies on the use of this new PDT modality in the treatment of AKs were carried out in Nordic countries.⁴ Later studies carried out in Australia,⁵ Spain,³ Brazil,⁶ and Italy⁷ obtained similar results and the same safety levels, despite the fact that solar radiation is stronger in these countries.

The first step in administering daylight PDT is to apply organic sunscreen to the treatment area as well as all other exposed skin. The purpose is to avoid exposure to UV radiation, which is unnecessary for PDT and inadvisable for patients with severe actinic damage. The second step is curettage of the lesions and application of the photosensitizer. After this, the patient must receive 2 hours of exposure to daylight.

One of the possible limitations of daylight PDT is the weather. Studies have shown that a minimum fluence of 8 J/cm² must be reached in the PpIX absorption range within the solar radiation spectrum in order for an adequate

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response to be achieved. Studies have shown that it could be possible to reach the necessary dose year round in Spain.¹

Daylight PDT is mainly appropriate for patients who have multiple grade I or II AKs in sun-exposed areas.¹

Some studies, albeit with fewer cases, have reported acceptable results with daylight PDT in the treatment of other skin lesions, such as basal cell carcinoma⁸ and actinic cheilitis⁹ (the latter study described only 2 cases).

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