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RESIDENT'S FORUM

Usefulness of Pulsed Dye Laser in Cutaneous Lupus Erythematosus☆

FR - Utilidad del láser de colorante pulsado en el lupus eritematoso cutáneo

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Lupus *tumidus*;
Lupus subagudo;
Terapéutica

Cutaneous lupus erythematosus (CLE) is a heterogeneous autoimmune disease with highly variable clinical manifestations, ranging from isolated skin lesions to severe systemic involvement. Cutaneous involvement is a common feature of the several distinct subtypes of CLE, each of which has well-defined clinical, histological, and analytical characteristics.[1]

The 2017 CLE treatment guidelines published by the European Dermatology Forum advise against laser treatment of active CLE lesions, and specify that laser treatment should be administered by an accredited dermatologist and used only as an adjunctive treatment for selected lesions (telangiectasia).[2]

These guidelines contrast significantly with previously published recommendations. Since 1986, when Henderson and coworkers successfully used carbon dioxide (CO_2) laser to treat a patient with disfiguring discoid lupus erythematosus, several case reports have described satisfactory outcomes using this modality.[3] CO_2 laser together with argon laser improves skin lesions, but causes unwanted side effects.[4]

By contrast, pulsed dye laser (PDL), the most widely used form of laser treatment for CLE, produces excellent results (improvement rate, 60%–88%) with minimal side effects (pain and pigmentary alterations). In CLE patients, PDL can be used to treat the erythematous-edematous component of the disease as well as telangiectasia, resulting in clinical and histological improvement and a reduction in the associated symptoms. PDL has been used to successfully treat subacute and chronic forms of CLE (lupus erythematosus tumidus and discoid CLE), and is effective in the treatment of recalcitrant lesions that do not respond to topical or systemic treatments, as well as acute lesions, minimizing the risk of secondary scarring.[5] Other light sources including neodymium-doped yttrium aluminum garnet laser and

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intense pulsed light have also shown promise for the treatment of this disease, although supporting evidence remains scarce.

The safety profile of PDL treatment in lupus patients has been a topic of considerable debate. The wavelength of this laser (595 nm) is outside the ultraviolet spectrum of radiation, which causes photosensitivity in patients with lupus. The possibility that treatment induces the formation of new lesions as a consequence of the Koebner effect has not been confirmed to date.

The mechanism underlying the therapeutic effect of PDL is not entirely clear. A majority of authors subscribe to the hypothesis that PDL selectively destroys the microvasculature of CLE lesions, reducing inflammation and resulting in consequent clinical and histological improvements.[6]

The high doses of topical and/or systemic immunosuppressive drugs administered to some CLE patients result in unsatisfactory responses and marked side effects. Despite its absence from clinical guidelines and algorithms, dermatologists should be familiar with PDL as an alternative treatment given its therapeutic potential and favorable side effect profile. Further studies of the usefulness of PDL in CLE will be necessary so that this treatment can be assigned an appropriate grade of recommendation and offered to patients.

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