

Infrared Therapy Could Offer UVB Protection

Use of light-emitting diode device may protect skin from excess UVB as well as sunscreen with SPF 15.

BY MITCHEL L. ZOLER
Philadelphia Bureau

GRAPEVINE, TEX. — Brief exposure of arm skin to infrared radiation appeared to protect against subsequent ultraviolet B exposure in a pilot study of 13 subjects, Dr. Daniel Barolet said at the annual meeting of the American Society for Laser Medicine and Surgery.

Results from this proof-of-concept study suggest that infrared pretreatment of skin with a light-emitting diode (LED) device may protect against ultraviolet B exposure as well as sunscreen, but in a way that's unaffected by moisture or perspiration, environmental factors, allergy, or compliance. The infrared-treatment protocols appeared to protect skin as well as a sunscreen with SPF 15, said Dr. Barolet, a dermatologist at McGill University in Montreal.

The investigators tested an infrared,

LED device that delivered 660-nm radiation at a power density of 50 mW/cm² and a fluence of 4.5 J/cm². Each treatment session lasted 3 minutes.

The LumiPhase-R device used in the study to produce infrared protection was made by Opusmed, a company based in Montreal. Dr. Barolet founded the company and is a stockholder.

The study tested several different treatment regimens, ranging from 6 treatment sessions over 3 weeks to 10 sessions during 1 week. Thirteen people (seven women and six men) completed the study. Their age range was 19-50 years, with a mean age of 41.

The subjects received their prespecified infrared regimen on the skin of their right arms, with their left arms remaining untreated and acting as controls. A patch on both arms was also treated with an SPF-15 sunscreen. Following pretreatment, both arms received a series of escalating



The right arms of patients received three doses of infrared light over 6 days prior to indicated dosages of ultraviolet B exposure. Infrared pretreatment reduced both acute erythema and long-term, postinflammatory hyperpigmentation (PIH).

ultraviolet B doses, and patients were followed for at least 1 month. Each arm received ultraviolet radiation on a treated and a control skin patch that corresponded to one minimal erythema dose (MED1), and also to a series of higher MEDs, up to MED4.

All of the treatment regimens studies

showed some ultraviolet B protection, with the most consistent protection coming against the effects of exposure to MED1 and MED2. The level of protection seemed to be dose dependent, with the best protection provided by a regimen of 10 infrared treatments in 1 week, said Dr. Barolet. ■