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Orally administered Polypodium leucotomos extract decreases psoralen-UVA-induced phototoxicity, pigmentation, and damage of human skin.

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Abstract

BACKGROUND:

The use of psoralen-UVA (PUVA) in patients of skin phototype I to II is limited by side effects of acute phototoxicity and possible long-term carcinogenesis.

OBJECTIVE:

We sought to assess oral Polypodium leucotomos (PL) extract in decreasing PUVA-induced phototoxicity of human skin on a clinical and histologic level.

METHODS:

A total of 10 healthy patients with skin phototypes II to III were exposed to PUVA alone (using 0.6 mg/kg oral 8-methoxypsoralen) and to PUVA with 7.5 mg/kg of oral PL.

RESULTS:

Clinically, phototoxicity was always lower in PL-treated skin after 48 to 72 hours (P<.005), and pigmentation was also reduced 4 months later. Histologically, PL-treated skin showed a significant numeric reduction of sunburn cells (P=.05), preservation of Langerhans cells (P< or =.01), decrease of tryptase-positive mast cell infiltration (P<.05), and decrease of vasodilation (P< or =.01). No differences were found in Ki-67+ proliferating cells.

CONCLUSIONS:

PL is an effective chemophotoprotector against PUVA-induced skin phototoxicity and leads to substantial benefits of skin protection against damaging effects of PUVA as evidenced by histology.

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