dosis 4.7, and that for grade + is also totally determined by the single point at UV dosis 3.

In conclusion, the article by Gniadecka et al. shows such a number of methodological faults and poor quality of data and analysis that we have no reasons to believe or even accept as plausible the authors' claim that the stratum corneum offers as much photoprotection as pigment.

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Response to the Letter by Westerhof & Uscanga

Sir

Westerhof & Uscanga consider it surprising that the total photoprotection afforded by the stratum corneum is similar in vitiligo and normal skin, despite differences in the thickness of this layer (1). As explained in detail in Results and Discussion, the lower photoprotective capacity per thickness unit of stratum corneum in vitiligo is compensated for by its increased thickness.

The argument about the importance of skin types is irrelevant. Skin phototype offers a crude estimate of sensitivity to solar radiation and, as pointed out, strictly depends on pigmentation. We chose to measure skin pigmentation, which automatically excludes skin type evaluation (regression analysis does not permit one to have two or more explanatory variables which are dependent on each other). In view of the fact that we focused on Caucasians the notion about the role of melanin in skin type VI, although true, is not relevant.

We cannot consider the study of Westerhof et al. (4) as evidence against the role of stratum corneum, because: 1) the study was based on one (!) individual only; 2) the patient had porphyria variegata, which makes extrapolation to normal conditions very difficult; and 3) the thickness of stratum corneum was not measured but only assumed to be identical in vitiligo and "normal" skin. These deficiencies prevented us from discussing this work in our paper.

Westerhof's & Uscanga's objections to the data analysis are faulty. Their formula used to calculate the "error" of the ratio is incorrect, and the true significance of our data is very easy to determine by calculating 95% confidence intervals. We will then obtain the values 0.44–1.68 SED for stratum corneum and 0.24–1.36 SED for pigmentation. We can immediately see that both ranges are significant and that stratum corneum is at least as important photoprotector as pigmentation in our group of Caucasians. However, in a population with a higher pigmentation grade, the relation between photoprotection afforded by stratum corneum and pigmentation may be different. We also want to stress that UV dosis is a dependent variable, because it is a dosis necessary to evoke an erythema reaction of a predetermined degree, which was assumed to depend on the explanatory variables given in equation 1. Thus plotting the UV dosis versus erythema grade, as suggested by Westerhof & Uscanga, does not make sense. The objection about the quality of the data is untrue: first it is improbable that single isolated points determine the slope of the lines in a coordinated pattern; second, slopes determined by single points will have an extremely large spread, which is not the case when one examines the standard errors given in Table I in our original paper.

In conclusion, none of the objections made by Westerhof & Uscanga are of relevance to the findings of our study.

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