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LETTERS TO THE EDITOR

Regional Distribution of Melanocytic Naevi in Relation to Sun Exposure

Sir,

Augustsson et al., in their stimulating study on melanocytic naevi, found that the mean number of melanocytic naevi per surface area was higher in intermittently exposed skin than in rarely exposed skin. Interestingly, the lowest mean count was found in chronically sun-exposed skin (1). The hypothesis that intermittent exposure to ultraviolet light has a "naevogenic" effect, while chronic exposure might be protective, is supported by our own data (2). Since anamnesis relating cumulative sun exposure over the years is frequently unreliable, we chose the number of solar keratoses as a biological marker of cumulative solar exposure. In a recent study, we found a significantly decreased number of common acquired naevi in subjects with multiple solar keratoses as compared to subjects without solar keratoses who presumably had less cumulative sun exposure. The differences in mole counts were maintained irrespective of differences of gender, occupation and complexion between the groups. These findings stress the importance of Augustsson et al.'s work and several previous studies supporting Armstrong's hypothesis that sunlight could contribute both to the appearance and the disappearance of nevi (3). Besides the role of these data in deepening our understanding of the evolution of naevi, it could enlighten the role of chronic sun exposure in the development of other melanocytic lesions such as malignant melanoma. As mentioned by Augustsson et al., the negative correlation between the amount of cumulative UV-exposure and the number of common acquired nevi could be related to the fact that for most types of malignant melanomas intense intermittent sun-exposure is associated with increased melanoma risk, while chronic, low dose sun exposure seems to be protective. Furthermore, these observations could be a partial explanation for the anatomical distribution of malignant melanoma, which is relatively rare on areas with maximal sun exposure such as the face and the extensor surface of the arms.

REFERENCES

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In response to the Letter by Yoram Harth

We have with interest read the letter from Harth concerning the role of ultraviolet irradiation in naevus evolution.

Intermittent and intense UV-exposure has both mutagenic and mitogenic effects on the melanocytes. While intermittently exposed skin is unprepared, regularly exposed skin is protected by its tan against the immediate insults of short-term UV-exposure. Furthermore, in regularly exposed skin the melanocyte population density is constantly high, minimizing the proliferative response to UV-irradiation. This might be the explanation for a more potent "naevogenic" effect on the melanocytes of intermittent UV-exposure, compared to chronic. Harth et al. used solar keratoses as a biological marker for long-term solar effects and found a significantly lower number of melanocytic naevi in subjects with multiple solar keratoses compared with the number of naevi in subjects without solar keratoses. Their findings might be explained by a protective effect of regular UV-exposure against naevus development or by a stimulatory effect on the maturation and/or disappearance of melanocytic naevi. In order to determine which one of these mechanisms is of most importance it will be necessary to perform prospective cohort-studies of naevus distribution in children.

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