naevi and Spitz naevi can present a central hypopigmented area with multiple brown dots, but this area lacks the scar-like feature of PM and, instead, is surrounded by a pigment network.

Dots and globules are considered a major dermatoscopic criterion for the diagnosis of melanocytic lesions (9), and dotted vessels are commonly believed suggestive of melanoma (8). Their presence in PM must be considered an exception to the rule; however, other cases are present in the literature in which the dermatoscopic criterion for the diagnosis of melanocytic lesions was not respected (10). It is possible that by extending the use of dermatoscopy to non-melanocytic lesions, a revision of dermatoscopic patterns will be required.

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Ultraviolet A Sunbed Used for the Treatment of Scleroderma

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Sir,

Ultraviolet A has been used in recent years in the treatment of localized and systemic scleroderma with good results (1). In most studies, UVA-I (340–400 nm) has been utilized (2–6), but there are some investigations showing that ordinary UVA alone or with psoralen is also effective (7–10). It has been shown that UVA increases collagenase in fibroblast cultures and in human skin, suggesting that this may be the basic mechanism by which UVA is beneficial in scleroderma (11, 12). Also, modulation of the immunosystem by UVA could contribute to the useful effects (13).

Since UVA-1 devices are relatively expensive, and not available in all dermatologic departments, there is a need to use other treatment modalities. Accordingly, a girl with extensive localized scleroderma was recently successfully treated with UVA from a sunbed. This treatment has now been used for other scleroderma patients with good results, prompting us to report our experience from an open study.

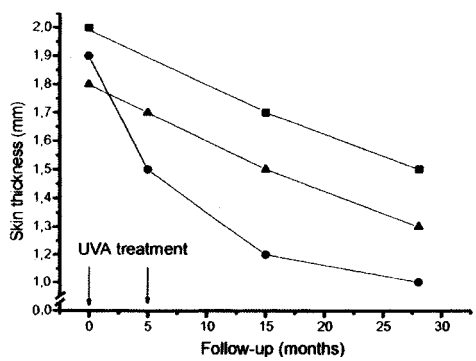

Fig. 1. Skin thickness of patient 1 was repeatedly measured by ultrasound before UVA treatment and for up to 26 months. The time between arrows is the period when altogether 60 UVA treatments were given by UVA sunbed. Note the interrupted scale on the y-axis (■ = shin; ● = forearm; ▲ = abdomen).

CASE REPORTS

Patient 1, a 12-year-old girl, had had gradually expanding generalized morphea for a year. At the first visit to a dermatologist, she had tightening and thickening of the skin on her arms and legs and over most of her body. She had difficulty extending her arms owing to the skin changes, and she had therefore refused to take part in gymnastics at school. A skin biopsy was taken and skin thickness was measured and recorded by Dermascan-A from abdominal skin, upper and lower arm, leg and back. Histology revealed markedly thickened dermis with numerous eccrine ducts surrounded by thick collagen bundles.

When the diagnosis was established, UVA treatment with ordinary solaria was started. The girl was treated using a sunbed (Solana computer sunbed, with Philips Performance lamps 100 W). Lamp output was 18–20 mW/cm^2, and mostly within 340–400 nm. The patient was treated three times a week for a maximum of 20 min at a time. She was treated 60 times, and the total UVA dose was estimated to be about 1100 J/cm^2.

Table I. *Clinical characterisation of the patients*

Subject	Age	Sex	Diagnosis	No. of treatments[a]	Target area[b]	Time interval between measurements (months)	Dermal thickness (mm)	
							Before	After
1	12	F	Generalized morphea	60	Forearm[c]	28	1.9	1.1
2	26	F	Linear morphea	30	Posterior aspect of lower leg	10	1.8	1.4
3	6	F	Linear morphea	30	Medial aspect of lower leg	12	1.7	1.4
4	47	F	CREST	30	Forearm	12	1.4	1.2
5	40	F	Systemic sclerosis[a]	33	Forearm	14	2.0	1.7
6	50	M	Generalized morphea	40	Forearm	5	2.2	2.2

CREST: Calcinosis, Raynayd, esophageal dysmotility, sclerodactyly, teleangiectasia.
[a]The duration of UVA treatment was generally 10 min at onset, gradually rising to 20 min, except in subject 3, in whom the maximum time was 10 min. The actual dose was only estimated in subject 1 (see text). The sunbed devices used were those generally used in Finland, giving 15–20 mW/cm^2 in the UVA region.
[b]Target area indicates the area in which skin thickness was recorded before and after treatment.
[c]For details, see Fig. 1, where also data for shins and abdomen are presented.

Her skin gradually became thinner and softer. The thinning and softening continued for up to 1–2 years after the treatment (Fig. 1). No side effects were noted during or after the treatment. At the same time, efficient physiotherapy was started. The girl has recently begun participating in school gymnastics.

Since then, we have treated two patients with linear scleroderma with good results (Patients 2 and 3; Table I). One patient with acrosclerosis (Patient 4) was also treated with good results. In one systemic sclerosis patient (Patient 5), slight thinning of the arm skin has been observed, and the patient is subjectively satisfied with the treatment. In one male patient with extensive sclerosis (Patient 6), the result has not been so good, even though the patient felt his arms to be warmer during the treatment period.

DISCUSSION

The advantage of using sunbeds in the UVA therapy of scleroderma is that these are available almost everywhere. The treatment is relatively inexpensive at about 3–4 euros per treatment.

The side effects of the treatment are well known: skin aging, increase in skin cancers and the risk of burning (14, 15), i.e. similar to those reported after UVA-1 or UVA psoralen therapy. With careful monitoring of the patients, however, these side effects can be controlled.

There are some obstacles in using sunbeds for medical purposes. One is that the personnel using them are not medically trained and output of the lamps can vary substantially. In Finland, lamps and sunbeds are controlled by the Finnish Centre for Radiation and Nuclear Safety. However, when recommending treatment with a UVA sunbed for scleroderma, the dermatologist is fully responsible for making sure that the institution giving the treatment has high quality equipment and also correct instructions about the timing of treatment. One argument for using UVA sunbeds in extensive scleroderma is that treatment modalities such as penicillamine and immunosuppressants have a considerably higher potential to induce serious side effects (16).

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