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SHORT COMMUNICATIONS

SOLAR URTICARIA

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A 35-year-old female and a 41-year-old male presented with clinical features suggestive of solar urticaria. The diagnosis of solar urticaria and the effectiveness of a combination of H1 and H2 blocking antihistamines were confirmed by phototesting with a solar simulator.

Key Words: Solar urticaria, Antihistamines, Solar simulator

Introduction

Solar urticaria is an uncommon photodermatosis, restricted to the sun exposed areas, which manifests as weals, erythema, oedema and pruritus. The lesions occur within minutes of sun exposure lasting a few minutes to several hours, resolving completely leaving normal skin.[1]

Phototesting is an important tool to confirm the diagnosis, to assess the responsible wavelengths and the response to therapy.[2,3]

The paucity of reports on solar urticaria in the Indian literature could be due to the rarity of the condition or a lack of reporting. In this study, the responsible wavelengths in two cases of solar urticaria were determined and the effect of H1 and H2 antihistamines on the minimal urticarial dose (MUD) evaluated.

Case Reports

Two patients with histories suggestive of solar urticaria were studied. Neither had clinical evidence of polymorphic light eruption (PLE), cutaneous porphyria, systemic lupus erythematosus (SLE), nor they were taking medication known to cause photosensitivity.

Case 1 : A 35-year-old male had complained of redness and itching after sun exposure since childhood. The symptoms and signs subsided within 30 minutes of seeking the shade. The medical history was insignificant other than a previous attack of tubercular lymphadenitis and a sensitivity to sulfa drugs.

Using a solar simulator (150 Watt Xenon Arc) manufactured by the Dundee Medical Physics Department in Scotland, the wavelength dependency was determined by irradiating the mid upper back skin with whole spectrum (WS) (290-800 nm), 2-20 J/cm^2 (WG 305 filter), whole spectrum minus UVB (WS-UVB) (>320 nm) from 20-200 J/cm^2 (WG 345 filter), and with 140-160 J/cm^2 of visible light (400-800 nm) (WG 420 filter). The test sites were observed for 10 minutes. In an attempt to determine the efficacy of antihistamines in suppressing the response, the patient was retested after terfenadine 120 mg; terfenadine 120 mg; terfenadine 120 mg + ranitidine 300 mg (Table 1).

In this case urticaria was induced by whole spectrum minus UVB component but not the visible wavelengths thereby implicating the UVA region. Intake of

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Table I. Minimal urticarial dose determinations MUD (case 1)

	Radiation (in J/cm²)		
	WS	WS-UVB	Visible
Before antihistamine	NR	100 J/cm²	NUD 160
After terfenadine 120 mg	NR	> 160 (2)	NUD 160(2)
After terfenadine 120 mg + ranitidine 300 mg	NR	> 160 (0)	NUD 160(0)

terfenadine 120 mg with ranitidine 300 mg per day produced complete suppression of the urticaria. The patient reported a complete clinical improvement in sunlight.

Case 2 : A 41-year-old female complained of a 12 months history of weals of exposed sites following sun exposure. She was retested with 100 and 200 J'cm² each of WS-UVB and visible spectrum. She was

Table I. MUD - Case 2

	Radiation Dose (in J/cm²)		
	WS	WS-UVB	Visible
Before antihistamine	NR	200 (U)	200 (U)
After terfenadine 120 mg	NR	NUD (2)	NUD
After 7 days of terfenadine 120 mg	NR	NUD	200 (U)
After terfenadine 120 mg + ranitidine 300 mg	NR	NUD	NUD

tested two hours after terfenadine 120 mg, 7 days after continuous intake of terfenadine and two hours after terfenadine 120 mg +n ranitidine 300 mg (Table 2). Results indicated the presence of wealing with sensitivity to WS-UVB spectrum and visible wavelengths. There was complete suppression after the combination of terfenadine and ranitidine. Clinical improvement matched her experimental results.

Discussion

Soilar urticaria is an idiopathic condition. Urticaria may be provoked by exposure to sunlight or even artificial light sources. Initially the patient experiences pruritus followed by urticaria which may persist for several hours. Solar urticaria may rarely remit spontaneously but more commonly it persists for many years.1 The condition varies greatly in severity with those most affected having a crippling disorder which may, by anaphylaxis, threaten life.

The effect of antihistamines in the treatment of an individual solar urticaria case is unpredictable. Reasons for this may be that high antihistamine doses are needed to block the response or perhaps the urticaria due to the action of mediators other than histamine. Approximately one-third of sufferers respond completely to antihistamines, a further one-third show a partial response with the remaining one-third showing no response at all.[7]

As cutaneous blood vessels contain both H1 and H2 receptors it is rational to use a combination of H1 and H2 blockers. In both cases by objective phototesting the efficacy of the antihistamine combination in suppressing the urticarial response was demonstrated.

The two cases presented show a long wavelength dependency suggesting provocation by sunlight through thin clothing or window glass. On the basis of the results, there should be no need for topical photoprotection while taking the antihistamine combination.

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