

Lack of Efficacy of a Combination Sunblock and "Jellyfish Sting Inhibitor" Topical Preparation against *Physalia* Sting

To the Editor:

On December 24, 2004, in Hillsboro Beach, Florida, I liberally applied a topical sunscreen-jellyfish sting inhibitor preparation on a 10-square-inch area marked by ink on both volar forearms. The thick white paste was allowed to dry for 10 minutes, then two *Physalia physalis* medusae (11 cm in length) were streaked across the area without pressure for 6 seconds, by which time burning pain was perceived at both sites. This was followed by local piloerection within 2 minutes. Increased sweating and an erythematous eruption appeared after one-half minute and 20 minutes, respectively (Fig 1). The erythematous eruption was papular, progressing to microvesicles throughout, with an urticarial border. The deep arm pain lasted 6 hours, but the rash, piloerection, and local sweating persisted for only 5 hours. The sweating had been sufficiently abundant that the forearms adhered to and repeatedly dampened a covering shirtsleeve. There was no difference between the eruption experienced within the square delineated by the ink (ie, the test area) and that immediately outside the delineation, which was inadvertently stung; it resembled the normal eruption following *Physalia* exposure.

This preparation, marketed by Cnidaria Technology Ltd. (Jordan Valley, Israel) and sold under the trade name Safe Sea, combines titanium dioxide, oxyphenones, and cinnamates as sunscreens along with a novel patented nematocyst inhibitor in a topical white lotion. The inhibitor is a proprietary ingredient but was unofficially said to contain an effective barrier similar to mucous or other integumentary product of those fish species that are resistant to jellyfish.

Assaying topical preparations for nematocyst inhibition is quite difficult.¹ Nematocyst inhibitors that have been incorporated into topical agents in the past are saponifying agents, detergents, weak acids or bases, and quaternary ions.^{2,3} The preparation above has been reported to be effective for 88% of patients stung by *Chrysaora fuscescens* and for the majority of those stung by *Chiropsalmus quadrimanus*.⁴ No reaction occurred in skin coated with the lotion and not exposed to the tentacles.



Figure 1. Volar sides of both forearms were erythematous and edematous 30 minutes after being stung. Drops of perspiration can be seen on the skin. The thick white test topical preparation had been gently removed with water 5 minutes before the photograph.

My experience with the rapid onset of such a significantly florid and long-lasting eruption as described here encourages me to wear protective clothing when bathing near these venomous animals.

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References

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