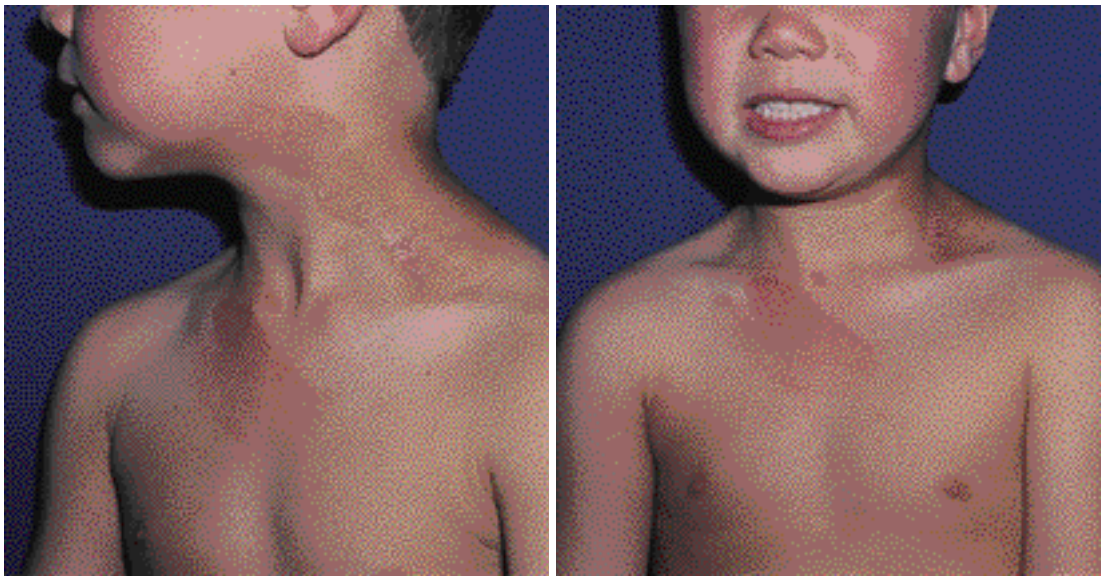
What Is Your Diagnosis?



A 6-year-old boy presented to a pediatric dermatology clinic with large irregular patches that covered part of his neck and upper chest. His mother reported that the child had not had these lesions until 3 days prior. The patches of discoloration were a fairly even medium brown and were not palpable except for a 1.5×4-cm area on the lower lateral neck, which showed superficial erosion. The patient's mother reported that this area had developed thin blisters that ruptured easily. The patches were sharply demarcated and did not seem to follow any anatomical patterns. They could not be rubbed off and were not painful.

PLEASE TURN TO PAGE 181 FOR DISCUSSION

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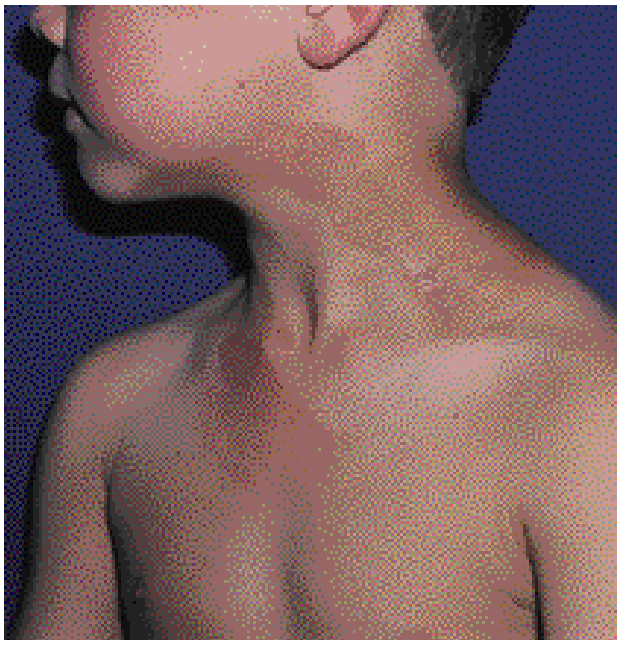
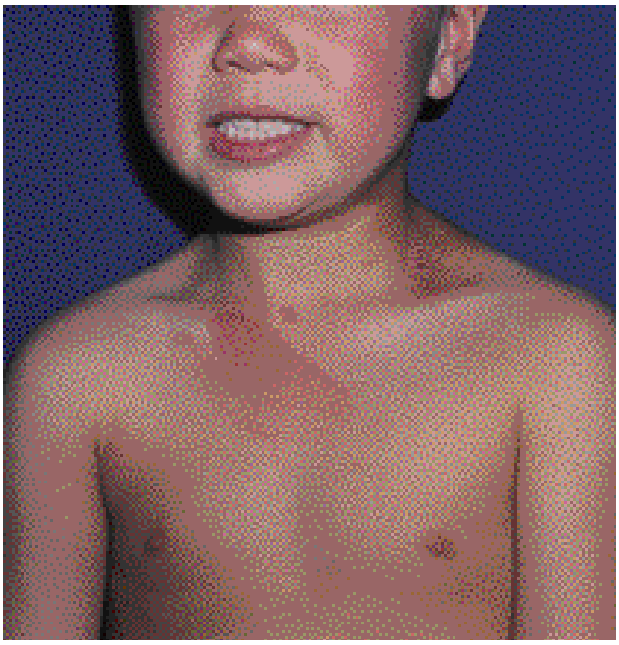
The Diagnosis: Berloque Dermatitis





Berloque dermatitis refers to the skin reaction caused by oil of bergamot and ultraviolet (UV) light exposure. The name is derived from the French word for *charm* or *pendant*, of which the shape of the hyperpigmented driplike patches caused by the reaction reminded some of the original investigators.[1] Oil of bergamot is derived from the peel of the fruit *Citrus bergamia*, grown mainly in France and Italy, which contains the chemical 5,7-dimethoxycoumarin (limettin).[2,3] The action spectrum for coumarins includes both UVA and UVB wavelengths similar to the furocoumarins (psoralens).[3-5] Coumarins have been used in many products including acne preparations, skin fresheners, hair dyes, shampoos, antiseptics, and fungal treatments. Coumarins also have been commonly incorporated as fragrance in soaps, detergents, toiletries, cosmetics, sunscreens, and perfumes.[2,6] Except for 7-methoxycoumarin, coumarins do not invoke phototoxic reactions, but most are known to be strong photocontact sensitizers and often cause prominent skin hyperpigmentation.[3,4] For this reason, the use of oil of bergamot had decreased, both in concentration and number of cosmetic products. Although its presence in sunscreens to produce an overall darkening effect might be acceptable, the irregular hyperpigmented patches from the application of perfumes and the like are not.

Oil of bergamot also is used as the flavoring agent in Earl Gray tea. Unprocessed oil of bergamot contains bergapten (5-methoxypsoralens), which contributes to the photoallergic reaction.[7] The oil of bergamot sold in the United States should be processed to remove this compound.[6] Although some chemicals can cause both types of photosensitized response, photoallergic reactions in general are less common than phototoxic ones because immune recognition of the agent is required.[5]

A recent resurgence in the use of oil of bergamot has appeared, and high concentration formulations

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are widely available in health stores and on the Internet. It is a popular aromatherapy fragrance that is touted to improve the nervous, urinary, and immune systems. Web pages advertising this oil have prominent warnings to not apply it to the skin before UV exposure. Contact with the oil involves a number of variables that may affect the ability of the skin to respond. These variables include the site of the skin area involved, the interval between application and subsequent irradiation, and the number of repeated light exposures or reapplications.[4]

In this case, the patient's mother purchased oil of bergamot in a health and nutrition store and was told it was a good product to apply for soothing insect bites. No warning about UV exposure was given. The mother applied the oil, and the child, after playing outside in the sun, developed hyperpigmented patches that were centered around the aforementioned insect bite papules. One area on the side of his neck showed a more severe reaction, responding with the formation of bullae. The patient's mother was instructed to stop using the product and to keep the area covered with a sunscreen. The bullous area healed quickly without scarring, and the hyperpigmented areas faded appreciably over the subsequent months.

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