

Cutaneous Eruption on Parts Covered by the Swimsuit

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Abstract

Background: Seabather's Eruption is an acute dermatitis allegedly produced by larvae from of the thimble jellyfish. Most of the published cases are originated in the Caribbean Sea. We present two cases of patients with cutaneous lesions located on the parts covered by the swimsuit that appeared after having been in contact with the sea water of the Cantabrian Sea beaches in Northern Spain.

Methods: Anamnesis, physical exam, cutaneous biopsy, epicutaneous and blood tests were carried out.

Results: According to the clinical evolution and the complementary tests, the possibility of contact dermatitis was dismissed, as well as other sea dermatosis, and Sea bather's Eruption was stated as the principal diagnosis suspect.

Conclusions: We suggest that increasing temperatures in the last few years in the Cantabrian Sea could facilitate the presence of this dermatosis. We consider the seabather's eruption knowledge of great interest, not only for the imported cases but the possibility of reporting a higher number of native cases in the coming years.

Keywords: Aquatic dermatoses; Seabather's eruption; Swimsuit eruption

Material and Methods

Introduction

Seabather's Eruption is an acute dermatitis allegedly produced by larvae form of the thimble jellyfish which is accumulated between the skin and the swimsuit fabric, resulting in a pruritic papular eruption, limited to the parts covered by the swimsuit. Most of the published cases are originated in the Caribbean and the Atlantic coast of America. Two cases are described of patients with cutaneous lesions located on the parts covered by the swimsuit that appeared after having been in contact with the sea water of the Cantabrian Sea beaches in Northern Spain.

Case 1: An 8-year-old female with no interest history of previous illnesses, was seen the first week of July because of pruritic cutaneous lesions on parts covered by a new bikini she had worn for the first time that day. The lesions appeared after bathing in a beach of Cantabria, after having the wet fabric in contact with her skin during several hours. The patient showed neither fever nor any other systemic symptoms.

Physical examination showed an eruption consisting of papulo erythematous lesions of 1- 3 mm in diameter, grouped but not converging, located in breasts, sides, back and buttocks, respecting the skin not covered by the swimsuit (Figures 1-2).



Figures 1-2: The patient presented pruritic, papular and erythematous lesions in covered parts by the swimsuit several hours after contact with seawater.

Case 2: A 38 year- old female, with a history of allergic rhino-conjunctivitis and allergy to aureomycin, was seen in August presenting similar lesions and symptoms to that of the case 1. A clinical picture of pruritic skin lesions beginning sometime after having bathed in another Cantabrian beach, wearing her wet swimsuit on her way back home. Physical exploration shown cutaneous lesions consisted of erythematous papules on her trunk and rubbing parts, drawing the covered area by her swimsuit (Figures 3-4).



Figures 3-4: Maculo-papular lesions tend to respect the not covered parts by swimsuit.

A cutaneous biopsy, epicutaneous and blood tests were carried out on the first patient and a biopsy on the second one in order to discard a contact dermatitis or serve as a guide to diagnosis.

Results

In the first case, histopathology showed a spongiotic and superficial perivascular dermatitis with lympho-histiocytes and plenty of eosinophils. A blood test that included food allergens test to milk, egg and antitransglutamic antibodies and also epicutaneous tests (standard, coloring, textile fabrics from her own swimsuit) did not suggested any pathology.

In the second case, the biopsy revealed a chronic perivascular and interstitial dermatitis suggesting incipient lymphocyte vasculitis.

Both patients experimented a significant improvement with topic corticosteroids and oral antihistamines leading to a complete recovery and clearing in a period of two weeks.

According to the clinical evolution and the complementary tests, the possibility of contact dermatitis was dismissed, as well as other sea dermatosis, and Seabather's Eruption was stated as the principal diagnosis suspect.

Discussion

Seabather's Eruption was first described by Sams in 1949 consisting of pruritic papular and erythematous lesions appearing in covered parts by the swimsuit after extended exposure to the seawater off the southeast coast of Florida [1]. Most of the cases reported belonged to these geographic areas with warm climates, mainly the Caribbean [2]. Some cases have been reported off the coast of New York [3] Gulf of Mexico [4] and the Brazilian coast [5].

Clinically, lesions can be urticariform or maculo-papular not converging but grouped, appearing in the first hours after contact with seawater, trending to spontaneous resolution, but persisting between 2 and 14 days after its apparition.

Etiology is still uncertain. Scientific literature appoints to the larvae of different species of coelenterate (jellyfish, sea anemone, coral and hydra) who have cells with urticating filaments (nematocistes) that deliver their venom and generate this dermatosis. Swimming suits, due to a mechanical phenomenon, perpetuate the contact between the ethiopatogenic agent and the skin, leading to this typical location of the lesions.

After performing water and outbreaks tests and immunologic studies in patients, some species of coelenterates have been able to be identified, among them the thimble jellyfish *Linuche unguiculata* [2] and the anemone *Edwardsiella lineata* [3]. There seems to exist a higher incidence in the months of spring and early summer, conditioned to the rising water temperatures contributing the vital cycle of these organisms [5].

Histopathological studies are in general unspecific, resembling in many cases, the sting of an arthropods (superficial

and deep inflammatory infiltrates, interstitial and perivascular composed of neutrophils, lymphocytes and eosinophils) without affecting neither the follicles nor the epidermis [2].

The main differential diagnosis is with the swimmer itch (in which uncovered parts of the body by the swimsuit are affected after bathing in fresh water), as well as the rest of sea dermatosis (jellyfish sting, contact dermatitis by algae, etc.) [6]. Similarly, some diagnostic doubts can be considered with contact dermatitis due to reactions with the swimsuit fabrics or dyes.

Seabather's Eruption therapy is symptomatic based on topic corticosteroids (mid or high potency) and oral antihistamines. A cycle of oral corticosteroids is proven to be the most effective. Clinical findings, histopathological compatibility and other differential diagnosis, indicate that we are dealing with two cases of Sea bather's Eruption.

As far as we know, there are no native cases reported in Spain in the medical literature. This fact could be explained by the rareness and poor knowledge of this entity or its rapid self-recovery.

Moreover, it is obvious that the emerging and alarming problem by the Dermatological Scientific community is climate change. In this way, an increasing number of cases of sea bather's eruption all along the American Atlantic coast should be emphasized due to an increasing rise of temperatures [7] that also happened in the last few years in the Cantabrian Sea mainly in summer [8]. This could facilitate the developing of these biological cycles. In this regard, our cases occurred when high temperatures were registered in the Cantabrian Sea surface [9].

As we have stated, we consider the seabather's eruption knowledge of great interest, not only for the imported cases but the possibility of reporting a higher number of native cases in the coming years.

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