

Case Report

Seabather's Eruption After Sea Exposure: A Case Report

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Abstract: Seabather's eruption is an acute pruritic dermatitis associated with exposure to cnidarians during sea bathing, particularly the thimble jellyfish *Linuche unguiculata*. Although this condition is frequently reported in tropical and subtropical coastal regions, information remains limited. This report describes the clinical presentation of seabather's eruption in a 21-year-old woman after sea bathing on the northern coast of São Paulo, Brazil. Shortly after leaving the water, the patient developed an intensely pruritic papular lesion on the right upper limb, followed by additional lesions on the left wrist, the dorsum of the right hand, the right elbow, and the right popliteal fossa. Over the next five days, the papules evolved into erythematous macules, accompanied by a progressive reduction in pruritus. The patient also reported chills on the first day. Diagnosis was considered compatible with seabather's eruption based on the temporal relationship with marine exposure, the characteristic clinical presentation, and the favorable response to symptomatic treatment. Management included topical dexamethasone and oral desloratadine, with temporary symptom relief. The lesions resolved spontaneously within approximately one week without complications. This case highlights the importance of recognizing seabather's eruption in coastal regions, allowing appropriate symptomatic management and preventing unnecessary diagnostic procedures or treatments.

Keywords: Dermatitis; Cnidaria; Skin Diseases; Seabather's eruption; *Linuche unguiculata*.

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1. Introduction

Seabather's eruption is an acute pruritic dermatitis that develops during or shortly after sea bathing, and results from close skin contact with cnidarians, particularly the thimble jellyfish, *Linuche unguiculata* [1–3]. This small jellyfish, commonly referred to as “sea lice”, is frequently found in the marine waters of Gulf of Mexico, Florida, Cuba, the Caribbean, the Bahamas, and along the Brazilian coast, with cases reported in the Northeast, Southeast, and South regions of the country [1–3]. In Brazil, seabather's eruption has previously been documented in the Northeast, Southeast, and South regions, including cases occurring on the coast of the state of São Paulo, indicating that the present case occurred in a region where exposure to cnidarians associated with this dermatitis has previously been reported [3–7].

Cases are more frequently reported during spring and summer, possibly because higher water temperatures favor the development and proliferation of the causative cnidarians [3–7]. Although its characteristic association with sea bathing and the distribution of lesions beneath swimwear may support clinical recognition, seabather's eruption may be underrecognized and can be confused with other pruritic dermatoses, including contact dermatitis, arthropod bites, folliculitis, cercarial dermatitis, and other reactions associated with marine exposure.

Previous Brazilian publications have established the occurrence and epidemiological relevance of seabather's eruption in different coastal regions [3–7]. The scientific and educational value of the present case therefore lies not primarily in its geographical location, but in the detailed documentation of the temporal progression of the lesions, the clinical

reasoning used to establish the diagnosis, and the discussion of relevant differential diagnoses. Such descriptions may assist physicians who are unfamiliar with cnidarian-associated dermatoses, particularly when evaluating patients after travel to coastal areas.

This report describes the clinical presentation, diagnostic approach, therapeutic management, and clinical evolution of seabather's eruption possibly caused by *Linuche unguiculata* following sea bathing on the northern coast of São Paulo (Brazil). By documenting the progression of the lesions and the clinical features that supported the diagnosis, this case aims to reinforce the educational value of recognizing this condition and distinguishing it from other dermatological disorders associated with marine exposure.

2. Case Report

A 21-year-old woman with no comorbidities presented with a cutaneous inflammatory response with erythematous macules associated with pruritus in the regions of the left wrist, right dorsum of the hand, right elbow, and right popliteal fossa for 5 days. The patient reports that the lesions initially appeared as papules with intense pruritus (Figure 1) and later became macules with reduced pruritus (Figure 2). According to the patient's report, the lesions began in January, after bathing in the sea on the north coast of the state of São Paulo (Brazil), specifically in the city of São Sebastião, a period during which cases of seabather's eruption are more frequently reported in Brazil [3–7]. She reported that as soon as she left the sea, she had the first lesion on the anterior dorsum of the right upper limb. On the same evening, the lesion worsened, accompanied by intense itching and chills.

Figure 1. Early-stage seabather's eruption showing pruritic papular lesions on the anterior region of the right forearm shortly after marine exposure.



The patient initially self-administered several measures, including topical corticosteroids, oral antihistamines, vinegar application, moisturizing lotion, and frequent warm baths in an attempt to relieve pruritus. According to the patient, these interventions provided partial and temporary symptom relief. During medical evaluation, the patient was instructed to use topical corticosteroids (dexamethasone 1 mg) and an oral antihistamine (desloratadine 5 mg), resulting in progressive improvement of pruritus and skin lesions. The patient reported additional subjective relief of pruritus after applying vinegar. However, this was a self-administered measure adopted empirically by the patient. The lesions were subsequently resolved without sequelae.

Figure 2. Late-stage evolution of seabather's eruption, demonstrating residual erythematous macular lesions with reduced inflammation and pruritus on the right wrist and proximal region of the right lower limb, near the popliteal region.



A clinical diagnosis compatible with seabather's eruption was established based on the patient's symptoms, epidemiological history, and clinical evolution. Considering the known occurrence of the condition on the Brazilian coast and the epidemiological context, exposure to nematocysts from *Linuche unguiculata* was considered the most likely etiology.

3. Discussion and Conclusion

This case report describes a case compatible with seabather's eruption likely caused by *Linuche unguiculata*. The planular larvae of *L. unguiculata* measure approximately 0.5 mm, being small enough not to be identified with the naked eye and to settle in the mesh of bathers' suits. When they penetrate the area covered by the bathing suit, the larvae are trapped in the material of the clothes and release cnidocyte nematocysts, defensive stinging cells, especially when the bather leaves the sea, since the bathing suit acts as a filter that drains the water and keeps the planulas in contact with the skin. To a lesser extent, nematocyst release can also be triggered by contact with freshwater after bathing in the sea or by pressure from surfboards [3–5,8,9].

The clinical manifestations after the release of the nematocysts are typical, evidencing the presence of a papulo-erythematous and pruritic eruption, similar to insect bites, which appears at the time of bathing in the sea, with a progressive increase in the intensity of pruritus, especially in areas covered by bathing suits, such as the buttocks, genital region, thoracic region and in the folds of the upper and lower limbs.

Although seabather's eruption is usually limited to the skin, systemic symptoms such as fever, chills, headache, nausea, vomiting, abdominal pain, and diarrhea may occur as a result of the inflammatory response triggered by nematocyst toxins, but these manifestations are reported more frequently in children [10,11]. In the present case, the patient reported chills shortly after exposure, representing a mild systemic manifestation that was resolved without complications.

The diagnosis of seabather's eruption is clinical and epidemiological, as a biopsy is not necessary. In addition, the histopathological signs of this dermatitis are not well established, and it is more common to focus on the clinical recognition of the rash and on understanding the patient's travel history [2]. The differential diagnosis of seabather's eruption includes cercarial dermatitis (swimmer's itch), arthropod bites, allergic contact

dermatitis, papular urticaria, and scabies. Swimmer's itch typically follows freshwater exposure and mainly affects uncovered skin, whereas seabather's eruption occurs after seawater exposure and predominantly involves areas covered by bathing suits [2,5]. Arthropod bites and papular urticaria are usually distributed on exposed body sites and are not associated with bathing in the sea [1,5].

Allergic contact dermatitis may present with pruritic erythematous lesions but is generally related to contact with a specific allergen and lacks the characteristic bathing-suit distribution [2,4]. Scabies are characterized by nocturnal pruritus, burrows, and involvement of typical sites such as interdigital spaces and wrists, often affecting close contacts [4,5,13]. In the present case, the history of recent sea exposure, lesion distribution, and clinical presentation supported the diagnosis of seabather's eruption [13]. Although dermoscopic findings in seabather's eruption are usually nonspecific, dermoscopy remains useful in excluding infestations such as scabies and other dermatoses included in the differential diagnosis. Therefore, the combination of compatible epidemiological history, characteristic lesion distribution, and clinical examination remains the cornerstone of diagnosis [4,5].

Beyond its clinical relevance, seabather's eruption has important epidemiological implications. Climate change, environmental alterations, and increasing coastal tourism may contribute to changes in the distribution and human exposure to cnidarians associated with this dermatitis [2]. The current literature has demonstrated the association between the presence of this species and outbreaks of seabather's eruption, highlighting the close relationship between marine ecology, environmental conditions, and disease occurrence [4–6,8]. Improved recognition of seabather's eruption may support public health surveillance and reduce underdiagnosis in coastal regions, particularly in highly visited coastal municipalities such as São Sebastião [2,5].

After contact with cnidarians, cleaning the site with running water helps remove larvae; however, they stimulate the release of toxins, which aggravate lesions and increase itching. According to popular use, topical application of alcohol or vinegar to lesions may help relieve local symptoms after exposure [10,12]. Experimental studies have demonstrated that topical vinegar can irreversibly deactivate *L. unguiculata* nematocysts, preventing further toxin discharge, however, it does not neutralize toxins that have already been released, and clinical evidence supporting its therapeutic effectiveness remains limited [5]. Therefore, the recommendation for vinegar is based mainly on experimental findings and observational experience rather than robust clinical studies.

The strongest clinical support for symptomatic management is derived from the use of topical corticosteroids and systemic antihistamines, which have consistently been reported to reduce pruritus and inflammation in observational studies and clinical case series [5,10,11]. It is a disease that responds well to this treatment and usually resolves spontaneously within one to two weeks, a period during which the lesion evolves from a papule to a macule, with a marked decrease in pruritus, leading a few patients affected by this dermatitis to seek medical attention [5,10].

The most prescribed topical corticosteroid for this dermatitis is hydrocortisone, and the most prescribed systemic antihistamines for these cases are loratadine, fexofenadine hydrochloride, dexchlorpheniramine, and hydroxyzine [11]. In some cases, it may present with chronic pruritus and urticaria, at which time increased doses of non-sedating H1 antihistamines are typically used instead of first-generation antihistamines, when possible [2]. The diagnosis of seabather's eruption, likely associated with *Linuche unguiculata* can cause great discomfort for the bather, since it causes intense itching and erythematous papules in various parts of the body. In the case described, the patient experienced spontaneous resolution, with no permanent lesions or adverse effects on the patient's health. This evolution is consistent with what has been described in the literature regarding cases of seabather's eruption.

The management adopted in this case was consistent with the available literature, in which topical corticosteroids and oral antihistamines are commonly used for symptomatic relief. Although seabather's eruption is generally self-limited, early recognition is important to avoid misdiagnosis, unnecessary treatments, and inappropriate investigations. Increased awareness among emergency physicians, dermatologists, primary care clinicians, and public health professionals working in coastal regions may facilitate timely diagnosis, appropriate patient counseling, and improved recognition of this potentially underreported condition.

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