



To review this article online, scan this QR code with your Smartphone



Aseptic Folliculitis in Freshwater and Marine Fishermen

Vidal Haddad Junior¹, Luana Moraes Campos¹,
Gabriela Roncada Haddad¹, Ana Letícia Rossetto²,
André Luiz Rossetto³

Abstract

Folliculitis is a common skin disease, usually benign, which causes inflammation and eventual infections of hair follicles. They may have an infectious etiology, mainly due to the bacteria *Staphylococcus aureus*; it also occurs due to localized irritation, such as in areas of skin friction and for long periods of immersion in water, as in athletes and workers who are continuously exposed to the aquatic environment. Herein, we report on two fishermen, from fluvial and maritime environments, who presented with chronic aseptic folliculitis associated with daily immersion of their lower extremities while exercising the profession and that regressed when there was a decrease in their contact with water.

Keywords: Fisheries; Folliculitis; Dermatitis, occupational; Hair follicle; Skin diseases

¹Universidade Estadual Paulista de Botucatu/UNESP, Botucatu, State of São Paulo, Brazil

²Pontifícia Universidade Católica do Paraná/PUCPR, Curitiba, State of Paraná, Brazil

³Universidade do Vale do Itajaí/UNIVALI, Itajaí, State of Santa Catarina, Brazil



Introduction

Folliculitis is inflammation of the hair follicle caused by different etiologies. When of infectious origin, it causes obstruction and infection of the follicular ostium, usually provoked by the Gram-positive bacteria, *Staphylococcus aureus*. It is manifested by pustules and papules with surrounding erythema and is most often self-limited in immunocompetent patients, but it can become severe in immunodeficient people.¹⁻³

Obstructive folliculitis occurs in patients who experience localized friction in some regions of the body, such as the gluteal regions in those who wear tight-fitting clothing. Another etiology is chronic immersion in water, when maceration and occlusion of hair follicle ostia occurs. This fact increases the incidence of folliculitis in athletes of some sports and in workers who spend long periods immersed in water.⁴

Case Reports

Case 1

A 62-year-old white male, a fisherman on the Tietê River in Botucatu (state of São Paulo), was referred to the Dermatology Clinic at the Botucatu Medical School complaining of recurrent episodes of itchiness and redness in his legs, which worsened when fishing. He denied systemic symptoms. The patient reported that other professional colleagues had similar conditions. The patient was in good health with no chronic disease; he only had mild hypertension well-controlled with losartan.

Dermatological examination showed many lichenified and excoriated erythematous plaques with ulcers predominantly below the knees and pustules located below the knees (Fig 1). The primary diagnosis was obstructive folliculitis with secondary eczematization. The histopathological

Correspondence to
Vidal Haddad Junior,
Caixa Postal 557–
18618970–Botucatu–
São Paulo State, Brazil
Tel: +55-143-880-1259
E-mail: vidal.haddad-
junior@unesp.br
Received: Jul 8, 2020
Accepted: Aug 6, 2020

Cite this article as: Haddad Jr V, Campos LM, Haddad GR, et al. Aseptic folliculitis in freshwater and marine fishermen. *Int J Occup Environ Med* 2020;11:210-212. doi: 10.34172/ijoem.2020.2136

V. Haddad Jr, L. M. Campos, *et al*

examination of a biopsy of the affected area showed hyperplasia of the epidermis, hyperkeratosis, focal parakeratosis, acanthosis, and spongiosis, with the presence of an abscess in the follicular corneal layer and intra-follicular abscess with leakage of neutrophils to the dermis (Fig 2). The search for fungi and bacteria was negative. The morphological aspects was compatible with folliculitis.

The patient was instructed to use topical treatment with 0.1% betamethasone, local hydration, care with the baths and avoid contact with water. During the follow-up period, the patient had no contact with water and no new pustules was developed.

Case 2

A 38-year-old white male, a professional fisherman in the neighborhood of Picinguaba, municipality of Ubatuba, state of São Paulo, presented at the consultation complaining of pruritus on his legs, mostly the area of his lower limbs that was immersed in the water during removal of fishing nets from the boat. He had no other complaints and received no medications. The lesions were itchy, but not painful. The patient reported that when the lesions ruptured, they left small wounds in the area. He had no systemic symptoms. He had frequent episodes over the last 20 years, mostly during periods when fishing excursions were more frequent, especially during the summer.

Dermatological examination showed erythematous plaques with pustules, abrasions, and ulcers localized on the lower extremities (Fig 3). The initial pustules and papules were pruriginous; the scratching caused mild eczema plaques in the lesions. The primary diagnosis of obstructive folliculitis was made. The pustules material was cultured for bacteria; no growth was seen.

The patient was treated with topical

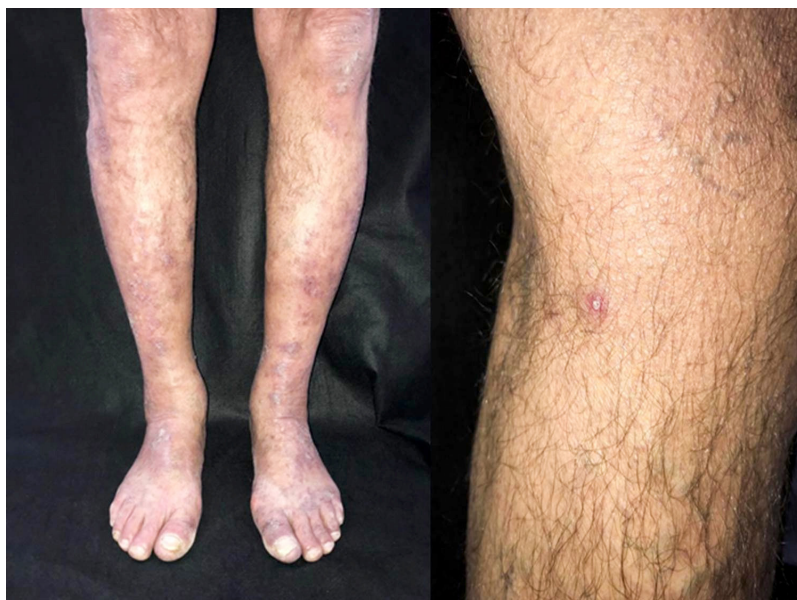


Figure 1: Aseptic folliculitis in a river fisherman. Lichenified and excoriated erythematous plaques with pustules and ulcers predominantly below the knees.

neomycin and 0.1% dexamethasone, provided by the local Health Post. The lesions were improved, but they always had recurrence, because the patient has continued to keep in contact with the seawater.

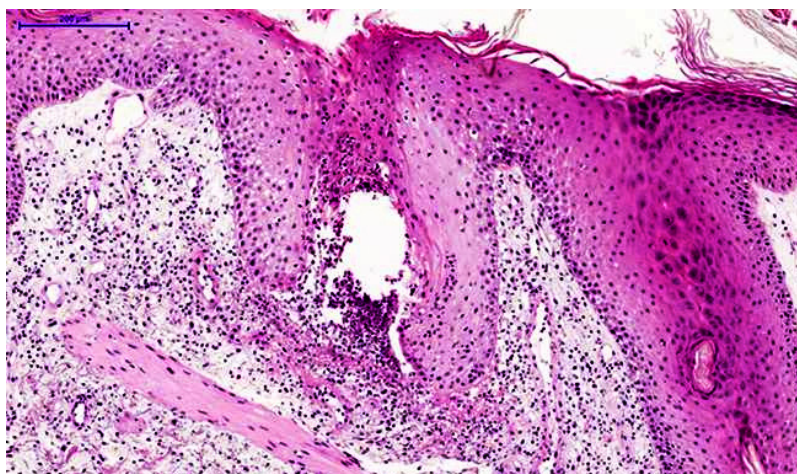


Figure 2: Histopathological examination of patient 1, showing hyperplasia of the epidermis, hyperkeratosis, focal parakeratosis, acanthosis, and spongiosis with the presence of an abscess in the follicular corneal layer and intra-follicular abscess with leakage of neutrophils to the dermis (H&E, 200 \times).



Figure 3: Aseptic folliculitis in a sea fisherman. Erythematous plaques with pustules, abrasions and ulcers are seen on the left lower extremity.

Discussion

Fishermen spend long periods with the distal third of their lower extremities immersed in river, lake, or sea water for various reasons including embarkation and disembarkation of boats when handling fishing nets. Previous studies have so far reported five similar conditions conditions.⁵

We showed that the pustules in our patients did not have infectious origin, as demonstrated by the results of the histopathological examination and the culture of bacteria. This suggests an obstructive or irritating mechanism most probably caused by the chronic immersion of their

extremities in water. In both cases, the improvement of the lesions was much more pronounced after avoiding contact with the aquatic environment than with specific drug treatments. A disease with similar origin is the hot tub folliculitis, caused by the bacteria *Pseudomonas aeruginosa*, capable to survive in chlorinated water and that provokes a very inflammatory folliculitis, which is characterized by immersion in bathtub during leisure time and positive microbiological exams. The fishermen's aseptic folliculitis is an occupational dermatosis not yet fully identified. It occurs in fishermen causing discomfort and damage to their activities.

Conflicts of Interest: None declared.

Financial Support: None.

References

1. Wen SC, Lee LY, Daley AJ, *et al.* Persistent Folliculitis in An Immunocompetent Child. *J Pediatr Child Health* 2018;**54**:1281-2.
2. Firsowicz M, Boyd M, Jacks SK. Follicular occlusion disorders in Down syndrome patients. *Pediatr Dermatol* 2020;**37**:219-21.
3. Bury K, Leavy JE, O'Connor A, Jancey J. Prevalence, Prevention and Treatment of Saddle Sores among Female Competitive Cyclists: A Scoping Review Protocol. *Methods Protoc* 2020;**6**:3.
4. Haddad Jr V. Skin disease profile in a fishing community on the northern coast of the state of São Paulo: the expected and the surprising. *An Bras Dermatol* 2019;**94**:24-8.