

Case Report

Malassezia folliculitis induced by prolonged oral corticosteroid: A case report

Hamidah Luthfidyaningrum^{1,2}, Evy Ervianti¹, Cita Rosita Sigit Prakoeswa¹, Trisniartami Setyaningrum¹, Afif Nurul Hidayati^{1,2}

¹Department of Dermatology and Venereology, Faculty of Medicine, Universitas Airlangga, Dr. Soetomo General Academic Teaching Hospital, Surabaya, Indonesia.

²Universitas Airlangga Teaching Hospital, Surabaya, Indonesia.

Abstract Malassezia folliculitis (MF) is a persistent contamination of the pilosebaceous follicles caused by a skin fungus Malassezia Sp. MF consequences from overgrowth of yeast present in the normal cutaneous flora. Eruptions can be related to situations such as immunosuppression and antibiotic use. The object of the study is to present a case report of a male patient, age 27, who provided an overview of Malassezia-associated skin diseases induced by long-term oral corticosteroids along with diagnostic techniques and treatment options.

Key words

Malassezia folliculitis; Dermoscopy; Oral corticosteroid.

Introduction

A typical person's skin has the commensal yeast *Malassezia furfur*. The organism has the potential to grow too much and can spread infections when specific risk factors, such as immunosuppression or antibiotic usage, are present. *Malassezia folliculitis* and *Pityriasis versicolor* are two of these well-known infections. Additionally, the fungus may interact with the immune system to exacerbate psoriasis, atopic eczema, and seborrheic dermatitis.

The skin lesions of MF are monomorphic papulopustular skin lesions that typically appear on the face, upper arms, and trunk. In about 80% of cases, the lesions are associated with itching. It usually affects people who live in hot, humid

places, and it can sometimes be caused by a lower immune system. Malnutrition, elevated cortisol levels, and hormonal changes, as well as the use of corticosteroids, contribute to these symptoms. Diabetes, broad-spectrum antibiotics, immunosuppression, steroids, pregnancy that obstruct the skin are all risk factors for MF. The disease's clinical symptoms dramatically improve with antifungal medication. Monitoring patient compliance with therapy requires frequent follow-ups and clinical improvement.

Case report

A 27-year-old came to the Dermatology Outpatient Department of Dr. Soetomo General Hospital Surabaya on 18 April 2019. He had the chief complaint of 1 week history of persistent itchy skin lesions. Skin examination revealed multiple and extensive monomorphic papules and pustules with erythematous on his chest and back. The patient had a history of secondary glaucoma and took 4 mg of methylprednisolone for 3 months.

Dermatological examination regio thoracalis

Address for correspondence

Dr. Evy Ervianti

Department of Dermatology and Venereology,
Universitas Airlangga, Dr. Soetomo General
Academic Teaching Hospital, Jl. Prof. Dr.
Moestopo No. 6-8 Surabaya 60131, Indonesia, and
Universitas Airlangga Teaching Hospital,
Surabaya–Indonesia.

Email: evy-e@fkg.unair.ac.id

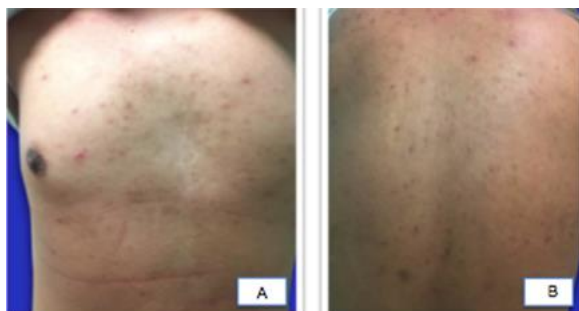


Figure 1 Dermatological state before the treatment: Numerous monomorphic 2-4 mm follicular papules and papulopustules with perifollicular erythema on the upper trunk (A) and back (B).



Figure 2 KOH preparation found spores. Spore load grading system +4.

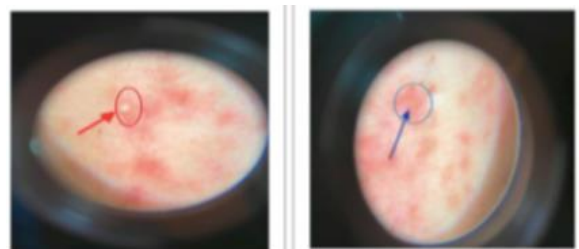


Figure 3 Dermoscopy displaying follicular pustule (red arrow) and filthy white perilesional scaling with surrounding erythema (blue arrow).

anterior et posterior showed numerous monomorphic 2-4 mm follicular papules and papulopustules with perifollicular erythema on the upper trunk and back (**Figure 1**).

The diagnosis is made on the basis of clinical findings, which should be supplemented with a specimen for fungal microscopy, dermoscopy, wood's lamp and the response to specific treatment. A KOH examination is a simple, affordable, and convenient way to determine the diagnosis right away. KOH examination of hair follicles and pustules showed abundant spherical

budding yeast cells consistent with *Malassezia* sp. (**Figure 2**). Dermoscopy examination showed follicular pustule and dirty white perilesional scaling with surrounding erythema (**Figure 3**) and wood light examination showed bright yellow green color or some times bright blue or white fluorescence was observed (**Figure 4**). Hair, nails and mucous membranes had been normal.

The patient was treated with oral ketoconazole 2x200mg for 4 weeks and ketoconazole shampoo 2% 2-3 times weekly and stop consumption corticosteroid oral.

One month after completed treatment, the clinical appearance on the chest and back completely disappeared, leaving pale erythematous lesions on the back

Discussion

Malassezia sp. causes *Malassezia* folliculitis (MF), a pilosebaceous follicle infection that affects teenagers and young adults between the ages of 18-39.⁴ Other precipitating factors that may lead to this case include obesity, pregnancy, stress or fatigue, immunecompromise, and the use of drugs like broad-spectrum antibiotics and long-term steroids.^{4,5}

Free fatty acids are essential for the survival of *Malassezia*, a yeast that plugs the follicle in the

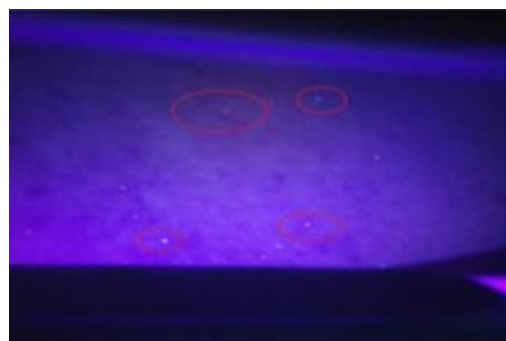


Figure 4 Wood light examination showed fluoresce a bright yellow green color or some time bright blue or white fluorescence is observed.

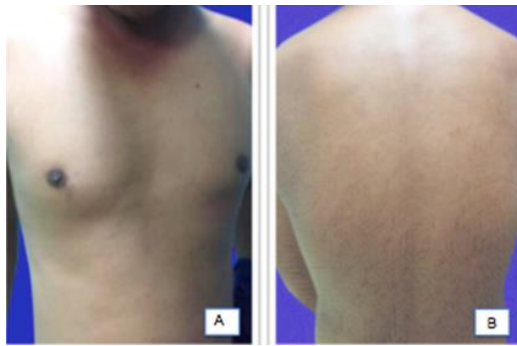


Figure 5 The dermatological status 1 month after therapy: clearance of clinical manifestation on the chest and back. The pruritic, monomorphic follicular papules and pustules is absent.

pathogenesis of MF and then grows out of control in the sebaceous environment. Long-term systemic corticosteroid usage is likely the predisposing factor in our case; the underlying pathophysiology is still unclear, however it is believed that corticosteroids enhance free.^{6,7}

Malassezia folliculitis and acne could be mistaken for one another. Malassezia folliculitis can be distinguished from acne by the lack of comedones and irritation.⁷ The patient's medical history, physical exam, microscopic inspection of pustules and follicular hairs (KOH preparation), dermoscopy, wood's lamp, and response to particular therapy are all used to make the diagnosis of Malassezia folliculitis.⁸

Folliculocentric papules and pustules with surrounding erythem were seen on dermoscopy. The scales varied in variation but were typically perilesional and dirty white.

The involved hair shaft had been hypopigmented. It is probable yeast spores invaded the hair shaft and caused the hypopigmentation.¹⁰

According to Gupta (2004), inspection of wood's lamps on MF is yellow-green or copper-orange, and wood's lamp can be used to investigate subclinical or extensive infections, helping to differentiate MF from the underlying cause of



Figure 6 KOH preparation: Spore load grading system: +1.

folliculitis. The parameters in diagnosing MF with wood's lamp examination showed positive results in all MF patients.¹² Wood's lamp can be used to investigate subclinical or extensive infections.

Acne steroid acne, bacterial folliculitis, and acne vulgaris are the primary differential diagnoses in MF. Patients have frequently been treated with antibiotics or another acne vulgaris-specific medication with no improvement or worsening of their condition. Hard-headed skin break out ought to be reexamined for potential Malassezia infection.¹⁴

Both skin and oral antifungal specialists are compelling specialists in the treatment of MF and are usually joined to rush goal and keep up with clearance.¹⁵ Skin regimens incorporate everyday utilization of ketoconazole cleanser 2%, selenium sulfide moisturizer 2.5%, and ciclopirox olamine cream 0.77%. Topical antifungals are important for maintenance and prophylaxis, but they are less effective in the initial treatment of MF.^{14,15} Malassezia infections have also been successfully treated with a number of oral medications.¹⁷ Oral treatment may be more successful than topical. The first oral azole that worked, ketoconazole, has been used to treat MF. Oral ketoconazole 200 mg every day for four weeks, fluconazole 150 mg every week for two to four weeks, and

itraconazole 200 mg every day for two weeks are all common treatments.¹⁸

In conclusion, the complex fungi known as Malassezia yeasts are a natural component of the skin's normal microbiome. Many Malassezia yeasts of the pilo-sebaceous unit, such as in Malassezia folliculitis, have the potential to cause disorders of the skin via a number of different processes. These yeasts have the potential to be pathogenic. MF can be the medication instigated like oral or foundational corticosteroids, anti-toxins and utilization of immunosuppressive medications. It is essential to distinguish between Malassezia species in immunosuppressed patients because lesions may spread. folliculitis resulting from skin lesions caused by hematogenous Candida spp. dissemination, acneiform ejection actuated by drugs and bacterial contaminations, and skin inflammation. After treatment is finished, recurrence is common, so maintenance therapies like oral or topical antifungals taken once a week or once a month have been used to prevent it.¹⁹

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