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HIGH CORTICOSTEROID TREATMENT FOR PSORIASIS VULGARIS CAUSING FATAL MANIFESTATION : A CASE REPORT

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ABSTRAK

Psoriasis adalah suatu penyakit inflamasi kulit bersifat kronis residif, dapat mengenai semua umur yang ditandai dengan plak kemerahan yang ditutupi oleh sisik yang tebal berwarna putih berlapis keperakan dan berbatas tegas. Seorang laki-laki berusia 29 tahun datang dengan keluhan bercak merah pada lengan, badan , kepala, tungkai sejak kurang lebih 2 tahun yang lalu. Pada pemeriksaan fisik didapatkan adanya plakat eritema, bulat konfluens, multiple dengan skuama kasar, berbatas tegas. Pasien tidak berobat kedokter tetapi oleh istrinya yang seorang perawat di injeksi dengan triamsinolon asetonide setiap hari selama hampir 2 tahun ini dan meminum dexamethasone tablet sekali sehari, karena kulit makin tampak memerah dan menipis maka pasien pergi berobat ke rumah sakit. Pemeriksaan manipulasi mendapatkan karsvlek phenomenon, Autzpits sign and Koebner phenomenon serta dilakukan biopsi kulit dengan kesimpulan psoriasis vulgaris. Setelah pasien menghentikan pemakaian steroid, pasien mendapatkan terapi yaitu cetirizin tablet 10 mg satu kali sehari, metotrexat 3 x 2,5 mg /minggu, asam folat tablet 1 x 1 mg sehari serta campuran salisilic acic 3%, liquor carbonis detergens (LCD) 5% dan klobetasol 0,05% krem serta krim asam fusidat. Pasien diberi edukasi mengenai cara perawatan kulit. Setelah 5 bulan pengobatan, lesi kulit mulai membaik dan kemerahan pada kulit berkurang.

Kata kunci : fenomena koebner; plak eritema, psoriasis vulgaris

ABSTRACT

Psoriasis is a chronic, recurrent inflammatory skin disease that can affect all ages. This disease is characterized by reddish plaques covered by thick, white, silvery scales and well-defined borders. A 29-year-old man came with complaints of red spots on his arms, body, head, and legs for approximately 2 years. On physical examination, there were erythematous plaques, round confluent, multiple with rough scales, and a well-demarcated lesion. The patient did not go to the doctor, but received injections with triamcinolone acetonide by his wife, a nurse, every day for almost 2 years and took dexamethasone tablets once a day. The patient's skin was said to appear increasingly red and thin, hence the patient went to the hospital for treatment. The manipulation examination revealed Karsvlek's phenomenon, Autzpits' sign, and Koebner's phenomenon. The skin biopsy examination showed the conclusion of psoriasis vulgaris. After stopping the use of steroids, the patient received therapy with cetirizine tablets 10 mg once a day, methotrexate 3 x 2.5 mg/week, folic acid tablets 1 x 1 mg a day, and a mixture of salicylic acid 3%, liquor carbonis detergent (LCD) 5% and Clobetasol 0.05% cream, as well as fusidic acid cream. Patients are given education about skin care treatments. After 5 months of treatment, the skin lesions began to improve and the redness of the skin decreased

Keywords *: koebner phenomenon; erythema plaque; psoriasis vulgaris*

INTRODUCTION

Psoriasis is a chronic inflammatory skin disease with a strong genetic predisposition and autoimmune pathogenic properties (Christophers, 2001). The World Health Organization (WHO) has classified psoriasis as a serious noncommunicable disease with an unmet health need (Michalek et al., 2016). The prevalence of psoriasis varies by country, ranging from 0.09 to 11.43% in adults and 0 to 1.4% in children with the average prevalence is 2–3%. The

prevalence of psoriasis increases as a location travels away from the equator (World Health Organization, 2014). Psoriasis affects males and women almost equally. This condition can manifest at any age, however, it rarely affects younger people. The two highest age categories are 30-39 and 50-69 years old (Feldman, 2022; Parisi et al., 2020; World Health Organization, 2014). According to one study, the prevalence of psoriasis in Indonesia is around 2.5%. However, data on the epidemiology of psoriasis in Indonesia is insufficient (Salomon et al., 2003). Chronic plaque psoriasis accounts for approximately 90% of all psoriasis cases. The characteristic clinical presentation is a well-defined, erythematous, pruritic plaque covered in silvery scales. Plaques can form and spread across significant sections of skin. The lesions are commonly found on the trunk, extensor surfaces of the limbs, and scalp (Gudjonsson & Elder, 2012; Kelompok Studi Psoriasis Indonesia, 2014). Overall, the various factors that result in psoriasis as a systemic illness have a significant impact on patient's quality of life and disease burden. The influence of psoriasis on psychological and mental health is currently a major concern due to the disease's implications for social well-being and therapy. Patients with psoriasis have a higher risk of depression, anxiety, and suicide ideation. Interestingly, psoriasis treatment leads to improvement in anxiety symptoms (Greb et al., 2016; Zufall et al., 2021).

Although its prevalence varies around the world, psoriasis is identified as a serious disease with unmet health needs by the World Health Organization. The diagnosis of psoriasis is based on clinical symptoms and often requires further evaluation through physical examination, supporting examinations such as skin biopsy, and laboratory examinations. Treatment of psoriasis also varies depending on the severity of the disease, the extent of the lesions, and the patient's response to therapy. One commonly used therapy is corticosteroids, although long-term use can cause serious side effects. In this context, the case report presented aims to describe the experience of a 29-year-old man with psoriasis vulgaris who experienced fatal manifestations as a result of excessive corticosteroid use. Through this case report, it is expected to provide additional insight into the diagnosis, management, and complications associated with psoriasis vulgaris.

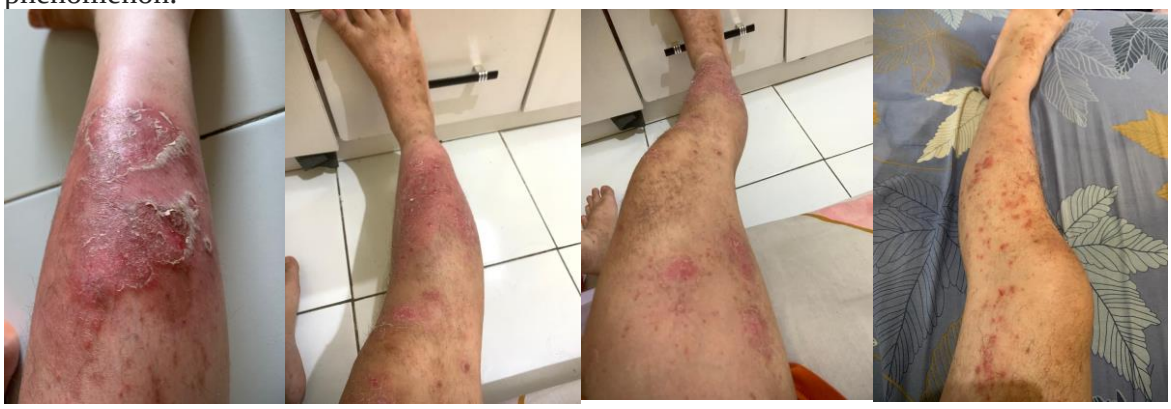
CASE REPORT

History Taking

Mr. WP, a 29-year-old man with a height of 160 cm and a weight of 80 kg, presented to the Dermatology and Venereology Polyclinic of Dr. Moch. Ansari Saleh Hospital in Banjarmasin, South Kalimantan, with complaints of itching accompanied by red spots on the skin and thinning of the skin on the arms, legs, body, and head since around 2 years ago. Over the last two years, complaints have increased when the patient was stressed or tired. The patient stated that his complaints disrupted his sleep since he frequently itched. The patient has never had his ailment examined by a doctor. He decided to treat it personally since he believed the disease was caused by an allergy, by taking dexamethasone tablets 3x4 mg and injecting triamcinolone acetonide (TA) every day by the patient's wife, who is a nurse. The skin complaints initially improved with decreased itch and the thinned scales. Because he felt better, the dexamethasone medication and TA injection were continued for nearly two years. In recent months, the patient noticed that the thick patches on his skin had turned significantly red and easily injured. Additionally, purple-red streaks emerged on his thighs, and his weight continued to rise. Therefore, the patient sought medical attention. The patient said that he had no previous sensitivities to food, medications, or other allergens. A family history of similar problems and systemic illness was denied. The patient has a history of smoking habits. The patient works as an entrepreneur.

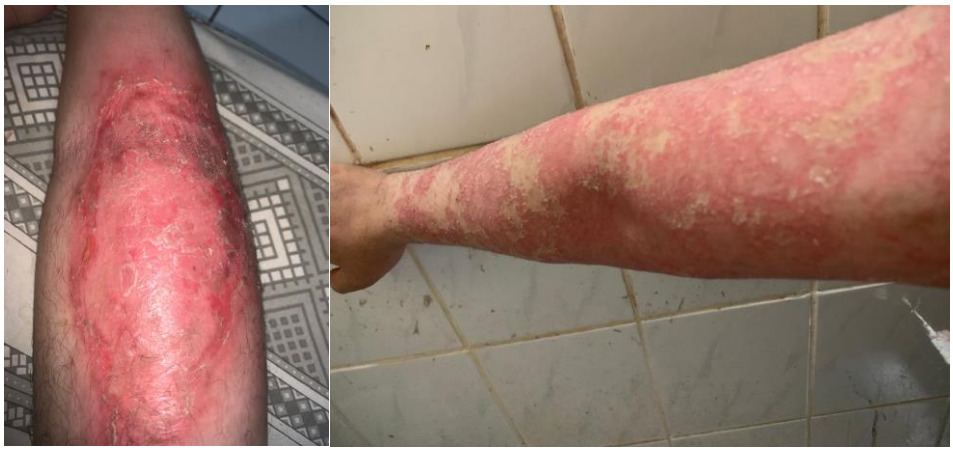
Physical Examination

On physical examination, the patient's general condition was satisfactory, and he was completely alert. The vital indicators were within the normal range. The dermatological state of the arms, legs, and feet revealed efflorescence in the form of erythematous macules, thick layered scale-like mica with solid borders, and pitted and discolored nails. In this patient, manipulation examination demonstrated the Karsvlek phenomena, Autzpits sign, and Koebner phenomenon.

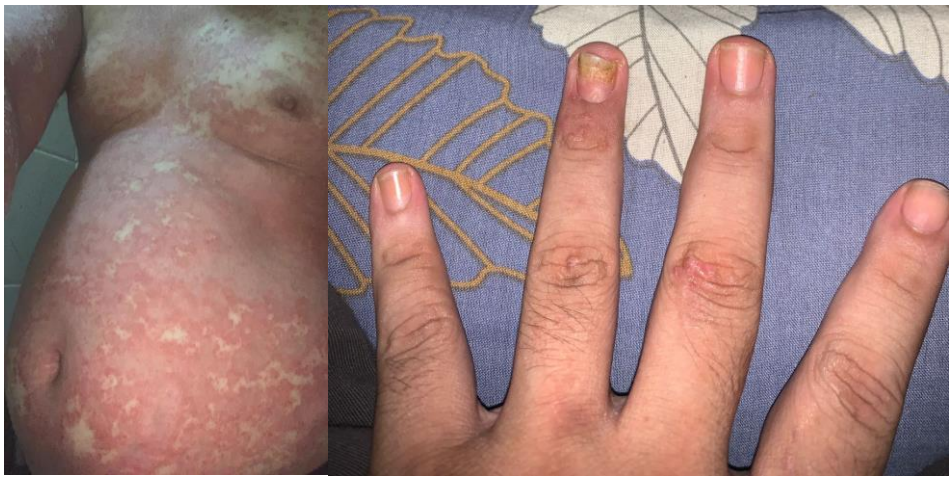


(a) (b) (c)

Figure 1. Skin lesion in the leg (a) on February 21st 2023, (b) on March 20th 2023, and (c) on June 6th 2023



(a) (b)



(c) (d)

Figure 2. Illustration of the initial lesion: (a). An erythematous macule, multiple scales, well-demarcated in the cruris dextra sinistra region, (b). Erythematous macules appear, thick layered scales, well-defined, on the arms, (c). Erythematous macules, thick scales, with ill-defined borders appear on the abdomen. (d) Pitting nails are visible

Supporting Examination

The skin biopsy showed a psoriasiform reaction on the epidermis, parakeratosis with neutrophils, and normal squamous cell nuclei. Subcorneal pustules and a modest spongiotic response in the epidermis were observed. The dermis papillae appear edematous, with lymphocyte inflammatory cells infiltrating the perivascular space and capillary blood vessels elongating and dilating. Skin adnexa with normal-sized sebaceous glands were also apparent, leading to the diagnosis of psoriasis vulgaris. The laboratory examination is shown in Table 1.

Tabel 1. Laboratory Examination Of The Patient

Parameter	21/2/2023	6/6/2023
Hemoglobin	14,6 g/dL	13,4 g/dL
Leukocyte	11,6 µ/L	7,200 µ/L
SGOT	37 U/L	18 U/L
SGPT	19 U/L	17 U/L
Urea	19,26 mg/dL	
Creatinine	0,9 U/L	
IgE	50,12 **IU/L**	

The pharmacological therapy given was cetirizine tablet 10 mg once a day, methotrexate 3 x 2.5 mg/week, folic acid tablet 1 x 1 mg a day and a mixture of salicylic acid 3%, liquor carbonis detergent (LCD) 5% and clobetasol 0.05% cream, and fusidic acid cream with education on how to care for diseased skin, avoiding risk factors such as stress and fatigue, abstain from scratching lesions, as well as regular control and adherence to treatment.

DISCUSSION

Psoriasis is a chronic inflammatory skin disease with a strong genetic tendency and an autoimmune pathogenic nature. It is a skin disease classified as erythro-squamous dermatoses, with lesions in the form of well-defined erythematous macules covered by layered rough scales that are clear white in color, similar to mica (Christophers, 2001). The World Health Organization (WHO) has classified psoriasis as a noncommunicable disease (Michalek et al., 2016).

Skin lesions can be localized or generalized, with symmetrical, well-defined red papules and plaques that are frequently covered in white or silver scales. The lesions cause itchiness, stinging, and pain. Until now, there has been little understanding of the pathophysiology of psoriasis, although autoimmunity and genetics may lie at the core of therapeutic concepts (Feldman, 2022).

Since there are no diagnostic criteria for psoriasis, the condition is diagnosed clinically based on the morphological pattern of skin lesions. Psoriasis is categorized into different clinical phenotypes based on the shape of the skin lesions and their location. Psoriasis-related inflammation can also damage nails. Nail psoriasis is thought to afflict more than half of psoriasis sufferers and may be the only symptom of the disease in 5-10% of people. The clinical manifestation of nail psoriasis is determined by the structures involved in the inflammatory process. Pitting, leukonychia, and onychodystrophy are symptoms of nail matrix involvement, whereas oil droplet staining, splinter hemorrhages, and onycholysis are signs of nail bed inflammation (Salomon et al., 2003).

Supporting examinations carried out include the karsvlek phenomenon and Auspitz sign, where these signs are considered typical, while Kobner's is considered not typical, only

approximately 47% of the results obtained are positive wax spot phenomenon and Auspitz sign. On serological examination, the ASTO examination results were positive while the total IgE was within normal limits. The histopathological picture showed hyperkeratosis and parakeratosis of skin tissue coated with epidermis with Munro's abscess and hydrophilic degeneration of basal cells. The epidermis also shows mild spongiosis. The superficial dermis appears edematous accompanied by infiltration of inflammatory cells by lymphocytes (Gudjonsson & Elder, 2012; Kelompok Studi Psoriasis Indonesia, 2014).

There are many variations in psoriasis treatment, depending on the location of the lesion, the extent of the lesion, the severity of the disease, the duration of the disease, and the age of the sufferer. In the initial treatment, topical medication should be given, but if the results are not satisfactory, systemic treatment can be considered, or a combination of the two can be given (Parisi et al., 2020). Therapy using topical treatment is an option for sufferers with plaque psoriasis that is limited or affects less than 20% of the body surface area (Christophers, 2001). Topical therapy is used alone or in combination with other topical agents or with phototherapy. Anthralin, a topical anti-inflammatory that suppresses keratinocyte growth, can be used to treat chronic plaque psoriasis or guttate psoriasis at a dose of 0.05-0.1%. Side effects include skin and clothing irritation and coloration (Christophers, 2001; Parisi et al., 2020). Tar formulations such as liquid carbonis detergent 2-5% in ointment form are used to treat chronic psoriasis. It is hypothesized to have an inhibitory effect on keratinocyte growth. The effect will increase when combined with 2-5% salicylic acid and can be given for a long time without irritation (Christophers, 2001; Greb et al., 2016). Topical corticosteroids with moderate to strong efficacy are commonly used to treat isolated psoriasis lesions as they contain anti-inflammatory and anti-mitotic properties (Christophers, 2001; Zufall et al., 2021).

Corticosteroids can be administered systemically or orally, particularly in cases with erythroderma or widespread pustular psoriasis. The initial dose is 40-60 mg of prednisone per day, and then gradually reduced (Parisi et al., 2020). Oral corticosteroids should not be used excessively or continuously because they can trigger psoriasis flares when they are discontinued (American Academy of Dermatology, 2017). Methotrexate, an anti-neoplastic drug, is also effective in the treatment of inflammation, including psoriasis. Methotrexate has anti-psoriasis actions by causing apoptosis of growing keratinocytes and blocking the T17 pathway, IL-17, IL-23A, and interferon-γ (Kelompok Studi Psoriasis Indonesia, 2014). Methotrexate works to inhibit DNA synthesis and suppressing chemotactic action against neutrophil cells, thus can be given to treatment of generalized pustular psoriasis, psoriatic erythrodermy, and psoriatic arthritis. The dose given is 10-12 mg per week, or 5 mg every 12 hours over a 36-hour period in a week. Side effects can include disorders of liver function, kidney function, hematopoetic system, and peptic ulcers (Krisnarto et al., 2016).

A history and physical examination were used to confirm the diagnosis. According to the history, the patient complained of red spots forming in one location and spreading to other areas, as well as itching and scaling on the skin. Physical examination revealed that the efflorescence appeared in the form of erythematous plaques, with a white scale similar to mica, layered, readily separated in sheet form, but might stick tightly and fall off after scratching like dandruff. It generally affects the extensor muscles of the extremities, particularly the elbows and knees, as well as the scalp, lower lumbosacral, buttocks, and genitals. The umbilicus and intergluteal are among the other sites of preference. Nail pitting, leukonychia, and onychodystrophy were identified. The efflorescence in this case resembles and fulfills the criteria for psoriasis, allowing a psoriasis diagnosis to be made. The type in this patient is psoriasis vulgaris. This type of psoriasis is also known as the plaque type because the lesions that emerge are typically in the shape of plaques. This type prefers the scalp, the scalp-face border, extensor extremities, particularly the elbows and knees, and the lumbosacral area.

Supporting examinations for psoriasis may include a histopathology examination. According to the literature, the histopathological picture of psoriasis is parakeratosis, often with hyperkeratosis, acanthosis, rete ridge elongation, elongation of the dermal papillae, Munro's microabscesses in the epidermis, and a swollen dermis with a number of lymphocytes and monocytic cells, parakeratosis with neutrophils, and squamous cell nuclei in normal range. Subcorneal pustules and a modest spongiotic response in the epidermis were observed. The dermis papillae seem edematous, with lymphocyte inflammatory cells infiltrating the perivascular space and capillary blood vessels elongating and dilating. Skin adnexa with sebaceous glands were also seen within acceptable limits.

In this case, the patient treated himself without consulting a doctor, injecting triamcinolone acetonide every day for nearly two years and taking oral steroids (dexamethasone tablets 4 mg), with the side effect manifestation including skin in the lesion area thinned and purple streaks appearing. Skin redness, anxiety, depression, and irritability were also reported. Steroids' effects on the nervous system and brain chemicals can disrupt the balance of neurotransmitters such as serotonin and dopamine, which play roles in mood and emotional regulation, weight gain, and appetite, altering how the body processes sugar and fat and leading to fluid retention (Gudbjornsson, 2002).

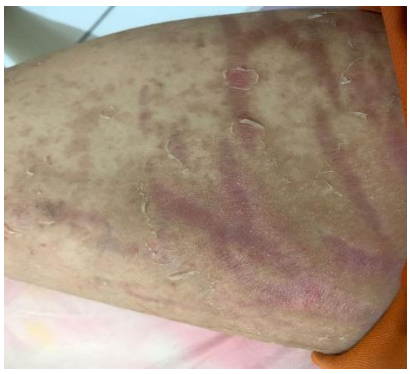


Figure 3. Striae in the cruris region due to long-term steroid use

Management in this case is to discontinue steroids and give systemic therapy, namely cetirizine tablets 10 mg once a day as an antihistamine to reduce itching, methotrexate 3x2.5 mg/week, folic acid tablet 1 x 1 mg a day and topical combination of salicylic acid 3%, liquor carbonis detergent (LCD) 5% and Clobetasol 0.05% cream, fusidic acid cream, and some antibiotics to prevent secondary infections. Combination therapy aims to accelerate lesion clearance. Therapy was given for 5 months and there was improvement in erythema skin lesions, reduction in thinning of scale, and reduction in the patient's weight.

The cause of psoriasis in this patient is not clear. Research into the etiology of psoriasis is still ongoing. It is possible that this patient is multifactorial, namely, genetic factors acquired from the family, which in this case report still has limitations in exploring a more in-depth family history. Environmental factors can also influence the occurrence of psoriasis in these patients, such as psychological stress, previous focal infections, or activities such as smoking which can also trigger the risk of developing psoriasis.

CONCLUSION

Psoriasis is a chronic inflammatory disease characterized by hyperproliferation and inflammation of the epidermis with varying morphology, distribution, and severity of the disease. When diagnosing psoriasis, it is necessary to pay attention to the characteristic features of psoriasis, namely rough, transparent, and layered scales accompanied by the Karsvlek

phenomenon, Auspitz sign and Koebner phenomenon. The diagnosis of psoriasis vulgaris must be done correctly because the symptoms of psoriasis are similar to those of dermatitis, resulting in a misdiagnosis, as in this case, which was treated abusively with steroids, both oral and high dose injection, though anti-inflammatory or other immunosuppressors can be given to inhibit the disease. The skin is activated and proliferated as a result of the inflammatory reaction. Providing appropriate management will yield beneficial outcomes and improve the patient's quality of life.

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