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HYPERHIDROSIS AND ENVIRONMENTAL FACTORS IN RECURRENT PITYRIASIS VERSICOLOR: A CASE REPORT

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Abstrak: *Pityriasis versicolor* (PV) merupakan infeksi jamur superfisial pada kulit yang bersifat kronis dan sering kambuh, disebabkan oleh jamur dari genus *Malassezia*. Meskipun terapi antijamur efektif, angka kekambuhan penyakit ini masih tergolong tinggi. Hiperhidrosis (produksi keringat berlebih) dan kondisi lingkungan yang panas menjadi faktor predisposisi utama karena dapat menciptakan kondisi kulit yang lembap dan mendukung pertumbuhan jamur. Laporan kasus ini bertujuan untuk menganalisis peran hiperhidrosis dan faktor lingkungan terhadap kekambuhan *pityriasis versicolor*. Seorang laki-laki berusia 35 tahun datang dengan keluhan bercak putih bersisik yang berulang pada area leher dan punggung sejak masa kanak-kanak, dengan kondisi yang semakin memburuk seiring bertambahnya usia. Lesi kulit tersebut semakin bertambah, sering muncul kembali saat berkeringat atau terpapar suhu panas, serta terlihat lebih jelas setelah terpapar sinar matahari. Pasien dan keluarganya memiliki riwayat hiperhidrosis primer serta keluhan kulit yang serupa. Aktivitas sehari-hari yang menyebabkan banyak berkeringat dan lingkungan kerja yang panas menjadi faktor yang memperparah kondisi penyakit. Pemeriksaan dermatologis menunjukkan adanya beberapa bercak hipopigmentasi (warna kulit lebih terang) dengan sisik halus pada leher dan punggung. Meskipun gejala dapat membaik sementara setelah pemberian obat antijamur, penyakit sering kambuh akibat hiperhidrosis yang menetap dan paparan panas lingkungan. Penanganan jangka panjang membutuhkan strategi kombinasi berupa terapi antijamur, pengendalian produksi keringat berlebih, serta perubahan gaya hidup untuk mengurangi kelembapan kulit. Hiperhidrosis dan suhu lingkungan yang panas berperan penting dalam menyebabkan kekambuhan *pityriasis versicolor*. Oleh karena itu, pengobatan yang efektif tidak hanya berfokus pada terapi antijamur, tetapi juga harus mengatasi faktor penyebab yang mendasari agar risiko kekambuhan dapat diminimalkan.

Kata Kunci: Hiperhidrosis; *Malassezia*; Makula Hipopigmentasi; Paparan Lingkungan; *Pityriasis Versicolor*.

Abstract: *Pityriasis versicolor (PV) is a chronic-recurrent superficial fungal infection caused by dermatophytes of the genus Malassezia. Despite effective antifungal treatments, its recurrence rate remains high. Hyperhidrosis and hot environmental conditions are major predisposing factors that create a microenvironment favorable for fungal growth. To report a case analyzing the role of hyperhidrosis and environmental factors in the recurrence of Pityriasis versicolor. A 35-year-old male presented with a long-standing history of recurrent scaly white patches on his neck and back since childhood, which worsened with age. The lesions multiplied over time, flared during sweating or heat exposure, and became more prominent after sun exposure. The patient*

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and his family have a history of primary hyperhidrosis and similar skin lesions. His daily high-sweat activities and hot working environment significantly contributed to disease exacerbation. Dermatological examination revealed multiple hypopigmented macules with fine scales on the cervical and dorsal regions. Although symptoms temporarily resolved with antifungal therapy, frequent recurrences occurred due to persistent hyperhidrosis and environmental heat. Long-term management requires a combined strategy of antifungal treatment, control of hyperhidrosis, and lifestyle adjustments to reduce skin moisture. Hyperhidrosis and environmental heat play a critical role in driving the recurrence of Pityriasis versicolor. Effective management must address underlying predisposing factors alongside antifungal treatment to prevent relapse.

Keywords: *Hyperhidrosis; Malassezia; Hypopigmented Macules; Environmental Exposure; Pityriasis Versicolor.*

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INTRODUCTION

Pityriasis versicolor (PV) is a chronic-recurrent superficial fungal infection caused by the overproliferation of lipophilic fungi from the genus *Malassezia*, which normally exist as commensal flora on human skin. This condition commonly affects areas of the skin rich in sebaceous glands, such as the neck, chest, back, shoulders, and upper arms. Clinically, pityriasis versicolor is characterized by hypopigmented, hyperpigmented, or erythematous macules or patches accompanied by fine scaling, with symptoms that are generally mild or even asymptomatic (Łabędź et al., 2023; Genuino et al., 2024). Pityriasis versicolor is frequently found in tropical and humid climates, including Indonesia. High temperatures, humidity, excessive sebum production, and sweat-inducing activities create an environment that supports the growth of *Malassezia* on the skin surface. Host factors such as adolescence to young adulthood, hyperhidrosis, compromised immunity, and a family history have also been reported to be associated with an increased risk of both the occurrence and recurrence of pityriasis versicolor, thereby contributing to its persistence (Karray & McKinney, 2024; Leung et al., 2022).

One of the main challenges in managing pityriasis versicolor is its tendency to recur. Topical and systemic antifungal therapies are generally effective at eradicating the fungus; however, skin discoloration may persist for several weeks to months post-treatment, as repigmentation takes time. Furthermore, because *Malassezia* is part of the normal skin flora, recolonization can occur, particularly if predisposing factors such as hyperhidrosis, oily skin, and exposure to hot environments persist (Łabędź et al., 2023). Therefore, management focuses not only on antifungal administration but also encompasses patient education regarding recurrence prevention, keeping the skin dry, wearing sweat-absorbent clothing, and adherence to therapy (PERDOSKI, 2024). This case report discusses an adult male patient presenting with recurrent white, scaly patches on the neck and back that have persisted for a long time. The complaints worsened when the patient sweated, engaged in activities in hot environments, and after sun exposure. The patient also had a history of hyperhidrosis and a family history of similar complaints. Based on the clinical features of multiple hypopigmented macules with fine scale, the working diagnosis in this case is pityriasis versicolor. This report is expected to provide insights into the role of predisposing factors,

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clinical manifestations, differential diagnoses, and management approaches for recurrent pityriasis versicolor in patients with hyperhidrosis and recurrent heat exposure.

RESEARCH METHODS

This descriptive case report describes a patient with primary hyperhidrosis who developed recurrent Pityriasis versicolor associated with environmental heat and occupational exposures. Data were obtained from the patient’s medical records, history taking, physical examination, dermatological assessment, and clinical documentation during a field observation at the Dermatology and Venereology Clinic of Universitas Mataram Hospital. In addition, relevant evidence was retrieved from PubMed, Google Scholar, and ScienceDirect to provide supporting information on the pathogenesis of Pityriasis versicolor, host-environment interactions, diagnostic approach, and strategies for managing recurrent superficial fungal infections. The collected data were then presented descriptively and compared with relevant literature.

RESULTS AND DISCUSSION

On May 19, 2026, a 35-year-old male presented with a chief complaint of white, scaly patches on the neck and back that had recurred since childhood. The complaints recurred during adolescence and gradually worsened with age. The lesions initially appeared small, then increased in number and spread, with no associated numbness or pain, but triggered mild itching when sweating or in hot weather. Other systemic complaints were denied. The lesions appeared more prominent following sun exposure, prompting the patient to seek medical attention due to cosmetic concerns. There was a history of hyperhidrosis and a family history of similar skin patches in the patient's father and child. Further evaluation demonstrated a significant role of combined host and environmental factors in the recurrence of the disease. The patient had a history of chronic focal hyperhidrosis, characterized by excessive sweat secretion upon lotion application, leading to fluid run-off. Regarding environmental and occupational factors, the patient's occupation as a contractor required high physical activity in a hot work environment with constant sun exposure. Although the symptoms temporarily improved with antifungal treatment, frequent recurrences continued to occur.

On general physical examination and vital signs, the patient's condition was within stable limits, namely blood pressure: 118/77 mmHg, pulse: 87x/min, respiration: 20x/min. Data were supported by the results of dermatological examination (local status) in the cervical (neck) and dorsum (back) regions confirming efflorescence in the form of multiple hypopigmented macules accompanied by fine scales (fine scale/furfuraceous scale) on the surface of the lesions. The working diagnosis of Pityriasis versicolor was established clinically based on a comprehensive history and characteristic features of skin efflorescence without supplementary laboratory examinations. These clinical features point toward a superficial skin disorder with pigmentation changes and fine scales, particularly because the lesions appeared in seborrheic areas such as the neck and back, which.

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Figure 1. Multiple hypopigmented macules with fine scales on the dorsal region

Discussion

Diagnostic Considerations and Clinical Reasoning

The diagnosis of pityriasis versicolor in this case is supported by several key findings: multiple hypopigmented macules with fine or furfuraceous scaling; lesions on the neck and back; worsening with sweating or in hot environments; and a recurrent disease course. Clinically, pityriasis versicolor is generally characterized by hypopigmented, hyperpigmented, or erythematous macules or patches with fine scaling, particularly in body areas rich in sebaceous glands such as the chest, back, neck, shoulders, and upper arms (Łabędź et al., 2023). In this case, the hypopigmented lesions that appear more prominent after sun exposure are also consistent with a mechanism involving decreased melanin synthesis due to Malassezia metabolites, particularly azelaic acid, which can inhibit tyrosinase activity. The accumulation of lipid material in the stratum corneum can block penetration of ultraviolet radiation, causing the lesion area to appear paler than the surrounding skin after sun exposure (Mayser et al., 2002; Divya et al., 2026).

The patient's history of hyperhidrosis serves as an important factor in the clinical reasoning process. The patient reported a long-standing history of excessive sweating, works as a contractor and is frequently exposed to the sun and hot environments, and actively engages in sports, all of which lead to frequent perspiration. Repeatedly moist skin conditions can create an environment that supports the proliferation of *Malassezia*, particularly in individuals with predisposing factors such as excessive sebum and sweat production (Karray & McKinney, 2024; Leung et al., 2022). Furthermore, a family history of similar white patches and excessive sweating reinforces the possibility of an individual or hereditary predisposition to *Malassezia* colonization. Approximately 21% of patients with pityriasis versicolor are reported to have family members with similar complaints, suggesting that familial factors may significantly contribute to the overall risk of developing this disease (Karray & McKinney, 2024).

In many cases, this disease is asymptomatic or accompanied only by mild itching, but symptoms can worsen when the skin is exposed to hot, humid, or sweaty conditions (Karray & McKinney, 2024). The recurrent aspect in this case is consistent with the characteristics of pityriasis versicolor, a disease prone to recurrence, because Malassezia is part of the normal skin flora and can repopulate when predisposing factors persist. Recurrence rates for pityriasis versicolor are reported to reach 60–80% within the first two years post-therapy, particularly in individuals exposed to heat, high humidity, and excessive sweating (Karray et al., 2022). Differential diagnoses to consider in this case include pityriasis alba, seborrheic

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dermatitis, vitiligo, tinea corporis, pityriasis rosea, and erythrasma. Although in most cases the diagnosis can be established clinically, supplementary examinations such as a KOH examination and a Wood's lamp examination can still be considered.

Classification of Pityriasis

According to Faradila et al. (2021), pityriasis is often associated with fungal infections of the epidermis, resulting in both characteristic and variable clinical presentations. Based on the diversity of its etiology and clinical manifestations, pityriasis can be classified as follows:

a. Pityriasis Alba
   Pityriasis alba is generally asymptomatic, occurring in children aged 3–26 years and commonly affecting the facial area, particularly the cheeks, neck, and upper body. This condition is associated with mild manifestations of atopic dermatitis. Histopathology demonstrates round or oval hypopigmented features with ill-defined borders (Givler & Saleh, 2024).
b. Pityriasis Rosea
   Pityriasis rosea is characterized by the appearance of a single initial scaly patch, termed a herald patch, on the body axis. The lesions subsequently develop into a Christmas tree-like pattern on the proximal extremities (Litchman et al., 2024). Seasonal variations, community settings, history of infection, and atopic conditions have been reported to be closely related to the incidence of this disease (Mahajan et al., 2016). In some cases, this condition may be preceded by prodromal symptoms such as sore throat, fever, gastrointestinal disturbances, and joint pain (Drago et al., 2015).
c. Pityriasis Rubra Pilaris
   Pityriasis rubra pilaris exhibits a macroscopic appearance of orange or salmon-red papulosquamous lesions. Clinical characteristics include widespread erythroderma accompanied by severe pruritus, skin tightness, pain, soreness, and a burning sensation. PRP cases are generally sporadic but can also be hereditary through the autosomal dominant CARD14 gene (Greiling & Syed, 2024).
d. Pityriasis Versicolor
   Pityriasis versicolor is caused by fungi of the genus *Malassezia*, with characteristic oval or round macules accompanied by color changes such as hypopigmentation, hyperpigmentation, or erythema with fine scaling. This condition commonly occurs in adolescents and young adults and is influenced by increased temperature or humidity, as well as oily skin conditions. The disease is non-contagious, causing primarily aesthetic concerns and mild itching (Karray & McKinney, 2024).
e. Pityriasis Lichenoides
   Pityriasis lichenoides presents with clinical features of scaly and crusted rashes resembling tree bark, which often appear during childhood. There is a variant known as Febrile Ulceronecrotic Mucha-Habermann Disease (FUMHD), a potentially life-threatening form of PLEVA characterized by acute onset and rapid progression of skin lesions into necrotic ulcers, accompanied by fever and other systemic symptoms. Several cases have been reported to be associated with a history of hormonal therapy, repeated chemotherapy, and a history of infection (Bonifazi, 2019; Eko, 2016).

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Risk Factors

In general, risk factors for pityriasis versicolor can be categorized into two major groups, namely environmental (extrinsic) factors and internal (intrinsic) factors. Environmental factors playing an important role are high temperatures and air humidity. Pityriasis versicolor is more frequently found in tropical climates because hot and humid conditions support fungal growth on the skin surface. The prevalence of pityriasis versicolor in tropical countries is reported to reach up to 50%, whereas in cold climates it only ranges around 1% (Gurning et al., 2023). In addition, poor personal hygiene, such as infrequently changing clothes after sweating, sharing towels, and inadequate skin hygiene, can create an environment that supports fungal growth (Abdi et al., 2024).

On the other hand, internal factors that also play a role are excessive sebum production. *Malassezia* fungi are lipophilic, making this infection more common in adolescents and young adults, an age group with increased sebaceous gland activity (Karray & McKinney, 2024). Certain skin conditions, such as acne, are also associated with an increased risk of infection because they correlate with higher sebum production (Moseley et al., 2024). Hyperhidrosis is also an important predisposing factor. Individuals with excessive sweat production have skin conditions that tend to be repeatedly moist, thereby creating a suitable environment for active fungal growth (Abdi et al., 2024). Furthermore, individuals with immunocompromised conditions, whether due to certain diseases, malnutrition, or long-term corticosteroid use, are at higher risk of developing persistent or easily recurrent pityriasis versicolor. Genetic factors are also suspected to contribute to the risk of this condition. A family history of similar complaints may indicate a hereditary susceptibility to *Malassezia* fungal colonization (Karray & McKinney, 2024).

Pathogenesis

The lipophilic fungus *Malassezia* is part of the normal human skin microbiome and can be found in up to 90% of the population, particularly in sebum-rich areas such as the scalp, face, chest, and back (Divya et al., 2026). In its commensal state, this yeast utilizes skin lipids as a nutrient source without causing damage to host tissues. In fact, this organism can exert a mutualistic effect by inhibiting the growth of other pathogenic microorganisms, such as *Staphylococcus aureus*, through the production of specific protease enzymes (Prohić et al., 2016; Li et al., 2018). However, environmental and host factors, such as high temperatures, high humidity, hyperhidrosis, seborrhea, malnutrition, and immunosuppression, can disrupt this equilibrium. Changes in these conditions can trigger the morphological transition of *Malassezia* from a commensal yeast form to a pathogenic hyphal or filamentous form (Crespo-Erchiga & Florencio, 2006). This transition is c associated with an increase in virulence factors, such as lipase, phospholipase, and keratinase enzymes, as well as biofilm formation, which facilitates fungal invasion into the stratum corneum (Łabędź et al., 2023).

Clinical manifestations of Pityriasis versicolor are characterized by color variations in skin lesions, ranging from hypopigmented to hyperpigmented to erythematous patches (Genuino et al., 2024). Hypopigmented lesions primarily result from Malassezia-mediated production of azelaic acid, which competitively inhibits tyrosinase activity, thereby decreasing melanin synthesis (Mayser et al., 2002; Divya et al., 2026). In addition to this chemical inhibition, the accumulation of fungal lipid material in the stratum corneum can

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also act as a physical sunscreen that blocks the penetration of ultraviolet radiation. Conversely, hyperpigmented lesions arise from a mild inflammatory response to fungal hyphae and allergens that can stimulate melanocyte activity (Divya et al., 2026). This inflammatory process is accompanied by hyperkeratosis, an increased number of tonofilaments, and the formation of large melanosomes in individuals with dark skin phototypes (Saunte et al., 2020; Łabędź et al., 2023). These variations in pathological mechanisms explain the use of the term “versicolor”, which reflects the diversity of colors in the clinical manifestations of this disease.

Confirmation of the clinical diagnosis is frequently aided by Wood's lamp examination, which uses UV-A light at 365 nm and can induce characteristic fluorescence in skin lesions (Divya et al., 2026). The observed color of fluorescence can vary, ranging from golden-yellow, yellow-white, copper-orange, to bluish-white at the site of infection. Based on research, this fluorescence is produced by fluorescent chromophores resulting from fungal lipid metabolism, such as pitriacitrin (Pietkiewicz et al., 2025; Łabędź et al., 2023). Differences in fluorescence shade and intensity are influenced by the infecting Malassezia species, colonization density, and hair follicle involvement. However, fluorescence findings can become extremely faint or even false-negative if the patient has bathed, used ketoconazole shampoo, or applied cosmetics prior to the examination (Divya et al., 2026). Therefore, a negative Wood's lamp examination result does not inherently rule out the diagnosis of Pityriasis versicolor (Crespo-Erchiga & Florencio, 2006; Łabędź et al., 2023).

Diagnostic Approach

In most cases, the diagnosis of pityriasis versicolor can be established through history-taking and clinical examination, so additional examinations are generally not required. However, in cases that are difficult to diagnose or present with atypical clinical features, several supplementary examinations can be utilized to aid in establishing the diagnosis. These examinations include Wood's lamp examination, dermoscopy, ultraviolet-induced fluorescence dermoscopy, as well as direct microscopic examination using KOH solution. These examinations help identify lesion characteristics and detect fungal elements, thereby enhancing diagnostic accuracy (Łabędź et al., 2023).

On dermoscopic examination, findings may include an altered pigmentary network, scaling, halo sign, folliculocentricity, and invasion of the hair follicle. In addition, perifollicular scale, hyperpigmentation surrounding the lesions, scaly patching, and non-uniform pigmentation can also be observed. These findings support the presence of hair follicle involvement and characteristic skin pigmentary changes in superficial fungal infections. Wood's lamp examination can demonstrate golden-yellow fluorescence in the lesion area, a characteristic finding in certain fungal infections. On direct microscopic examination of skin scrapings treated with 20% KOH solution, clustered spores and short hyphae can be identified, producing the classic "spaghetti and meatballs" appearance. Clustered spores indicate fungal colonization of the skin, whereas the presence of hyphae signifies active fungal infection. Culture examination is generally not required, as the diagnosis can usually be established based on clinical features and the supplementary examination findings obtained (PERDOSKI, 2024).

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Figure 2. Dermoscopy of pityriasis versicolor. (A) Hypopigmented lesion demonstrating a characteristic sulcus-scaling pattern. (B) Follicular hyperpigmentation showing small, round, light-brown areas in the folliculocentric portion with discrete scales. (C) Hyperpigmented lesion at the folliculocentric region demonstrating a reddish-brown area with perifollicular scales, sulci, and inward-facing peripheral scales. (D) Hyperpigmentation with a fine sulcus-scaling pattern and perifollicular scale. (E) Classic hyperpigmented lesion without scaling. A peripheral hypopigmented area surrounding a lighter center (halo sign) can be observed. (F) Hypopigmented PV showing diffuse scaling and a peripheral hyperpigmented area (contrast halo sign). Source: (Łabędź et al., 2023)

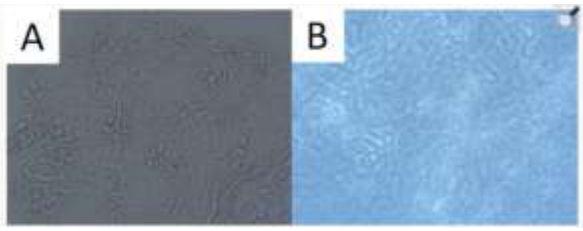


Figure 3. Direct microscopic examination of skin scrapings demonstrating yeast cells and hyphal fragments (resembling a "spaghetti and meatballs" appearance), 200× magnification (A). Lactophenol cotton blue (LPCB) staining utilized to enhance the visibility of hyphae and spores, 400× magnification (B). Source: (Łabędź et al., 2023)

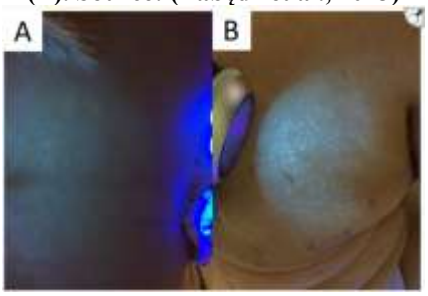


Figure 4. Golden-yellow and blue fluorescence observed via Wood's lamp examination in the classic form (A) and follicular form (B). Source: (Łabędź et al., 2023)

Therapeutic Management

The management of pityriasis versicolor, according to the Clinical Practice Guidelines of the Indonesian Society of Dermatology and Venereology (PERDOSKI) 2024, is divided into topical and systemic therapies. Topical therapy serves as the first-line treatment, particularly in mild cases of pityriasis versicolor. Topical treatment options can be tailored to the patient's condition, including: (1) ketoconazole 2% shampoo used once daily for three

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consecutive days, applied to the infected area or the entire body and left on for five minutes before showering; (2) selenium sulfide 2.5% shampoo used once daily for three consecutive days, left on for 15–20 minutes, followed by a repeat application one week later and maintenance therapy administered once every three months; (3) zinc pyrithione 1% shampoo used once daily or 3–4 times per week, applied to all infected areas or the entire body before showering, then left on for 7–10 minutes; (4) for special areas such as the face and genitals, preparations with a solution vehicle or topical azole antifungals can be used, such as miconazole cream twice daily; and (5) terbinafine 1% cream applied to the infected area twice daily for seven days (PERDOSKI, 2024).

In cases with extensive lesions, those that are difficult to cure, or those that are recalcitrant to topical therapy, the administration of systemic antifungals can be considered. Recommended regimens include: (1) itraconazole 200 mg/day for seven days or 100 mg/day for two weeks; (2) fluconazole 400 mg as a single dose or 300 mg/week for 2–3 weeks; and (3) ketoconazole 200 mg/day for 10 days as an alternative therapy. However, the use of ketoconazole tablets is not recommended in patients at risk of hepatic dysfunction. In resistant or persistent cases, the recommended management is a combination of oral and topical therapy. Treatment for pityriasis versicolor can be discontinued when clinical examination, Wood's lamp examination, and KOH examination demonstrate negative results for two consecutive weeks (PERDOSKI, 2024).

Given the high recurrence rate of this disease, which is reported to reach 60–80% within the first year, prevention and prophylactic strategies constitute essential aspects in the management of pityriasis versicolor (Łabędź et al., 2023). Systemic prophylaxis that can be administered is itraconazole 200 mg once monthly for six months (PERDOSKI, 2024). In addition, routine use of antifungal shampoos or soaps containing selenium sulfide or ketoconazole over the entire body can help reduce recurrence rates, particularly during hot and humid seasons (Łabędź et al., 2023). Beyond prophylactic therapy, patient education is also a crucial component that needs to be emphasized. Patients should be informed that the skin repigmentation process takes time and skin discoloration does not always disappear immediately, even after the fungal infection has been declared cured. Patients should also be educated to keep the skin dry and clean, minimize activities that induce excessive sweating, wear breathable and loose-fitting clothing, and avoid sharing towels or garments with others. (PERDOSKI, 2024). Understanding these preventive measures empowers patients to manage environmental triggers effectively and reduce the likelihood of recurrence.

Complications

The most common clinical complication observed following the resolution of *Pityriasis versicolor* infection is the emergence of post-inflammatory hypopigmented or hyperpigmented lesions that can persist for an extended duration. The fungus *Malassezia* produces azelaic acid as one of its metabolites, which competitively inhibits the tyrosinase enzyme and disrupts melanogenesis, or skin pigment formation. Consequently, even though antifungal therapy has achieved mycological eradication of the fungus, restoring skin color to its original state still requires considerable time and may persist for several months after treatment (Karray et al., 2022).In rare and atypical cases, *Pityriasis versicolor* can progress into a complicated variant known as atrophying pityriasis versicolor. This condition is

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characterized by cutaneous atrophy or epidermal thinning, along with permanent loss of elastic tissue within the lesion area, which clinically appears as wrinkled, depressed skin. Histopathologically, this complication results from a chronic inflammatory response triggered by the fungus, which stimulates the release of elastase from inflammatory cells, such as histiocytes and T lymphocytes, thereby destroying dermal elastic fibers (Karia et al., 2024). In addition to pigmentary disorders and cutaneous atrophy, the primary long-term challenge in Pityriasis versicolor is the tendency of the disease to recur or run a chronic relapsing course. This is related to the presence of *Malassezia* as part of the normal flora of human skin, allowing this organism to re-proliferate and invade deeper hair follicles under favorable environmental conditions, such as high humidity and excessive sweating. Recurrence rates are reported to reach up to 60–80% within the first two years following therapy, thus requiring long-term intermittent prophylactic therapy in some patients (Karray et al., 2022). This condition also contributes to psychosocial distress and functional impairment.

CONCLUSIONS

Pityriasis versicolor (PV) is a chronic-recurrent superficial fungal infection resulting from the proliferation of the lipophilic fungus Malassezia in sebaceous-rich areas such as the neck, chest, back, and arms, with clinical manifestations in the form of abnormal macules or patches with fine scaling. In this case report, a male presented with multiple hypopigmented macules with furfuraceous scale on the neck and back that had been waxing and waning for a long time. Complaints were precipitated by activity in hot environments, excessive sweating, and sunlight exposure. The combination of hyperhidrosis, occupational heat exposure, and genetic/familial factors created a humid microenvironment that triggered Malassezia proliferation and repeated reinfection. The diagnosis of PV is generally sufficient when established clinically through history taking and physical examination. Supplementary examinations, such as 10% KOH and Wood's lamp, are indicated in atypical presentations to rule out differential diagnoses (Pityriasis alba, seborrheic dermatitis, vitiligo, tinea corporis, Pityriasis rosea, and erythrasma). Comprehensive management relies not only on antifungals but also on risk-factor modification, such as maintaining skin hygiene and moisture, wearing loose-fitting, sweat-absorbent clothing, minimizing heat exposure, and recognizing that repigmentation takes time. Patient prognosis is generally good with adequate control of predisposing factors.

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