Plaque psoriasis in Fitzpatrick skin phototype V successfully treated with acitretin: a case report

Mislav Mokos[*1], Katarina Dragun[1], Filip Bosnić[1], Iva Blajić[1,2], Mirna Šitum[1,3,4]

[1] Department of Dermatology and Venereology, Sestre milosrdnice University Hospital Centre, Zagreb, Croatia
[2] School of Medicine, Catholic University of Croatia, Zagreb, Croatia
[3] School of Dental Medicine, University of Zagreb, Zagreb, Croatia
[4] Croatian Academy of Sciences and Arts, Zagreb, Croatia

OPEN ACCESS

Correspondence:
Mislav Mokos
mislavmokos50@gmail.com

This article was submitted to RAD CASA - Medical Sciences as the original article

Conflict of Interest Statement: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Received: 9 December 2025
Accepted: 15 December 2025
Published: 28 December 2025

Citation:
Mokos M, Dragun K, Bosnić F, Blajić I, Šitum M. Plaque psoriasis in Fitzpatrick skin phototype V successfully treated with acitretin: a case report 569=72-73 (2025): 64-68
DOI: 10.21857/mwo1vc462y

Abstract

Psoriasis is a chronic immune-mediated skin disease that most commonly presents as erythematous, scaly plaques. In individuals with darker skin phototypes, erythema may be less apparent and post-inflammatory pigmentary changes are more pronounced, which can complicate both diagnosis and assessment of disease severity. Dermoscopy can help visualise vascular and scaling patterns that are macroscopically difficult to recognise during clinical examination.

A 37-year-old man from Bangladesh with Fitzpatrick phototype V presented with a two-year history of plaque psoriasis, initially confined to the lower legs and later generalised to the trunk and upper extremities. At first evaluation in September 2024, his Psoriasis Area and Severity Index (PASI) was 10, body surface area (BSA) 10% and Dermatology Life Quality Index (DLQI) 8. Dermoscopy of representative plaques revealed a light red background with regularly distributed dotted vessels and diffuse white scales, a pattern highly suggestive of psoriasis. Oral methotrexate (15 mg weekly) with folic acid and topical therapy initially led to partial improvement (PASI 4, BSA 10%, DLQI 5), followed by a flare (PASI 15, BSA 20%, DLQI 10). Methotrexate was discontinued and acitretin 25 mg daily was introduced. After approximately three months of acitretin therapy, complete clearance was achieved (PASI 100) without adverse effects or laboratory abnormalities.

This case highlights the diagnostic and monitoring challenges of psoriasis in darker skin, the added value of dermoscopy in confirming the diagnosis, and the continued relevance of acitretin as an effective non-immunosuppressive systemic option in carefully selected patients.

Keywords: psoriasis; acitretin; skin of colour; dermoscopy; phototype V

Sažetak:

Plak psorijaza kod Fitzpatrickovog fototipa kože V uspješno liječena acitretinom: prikaz slučaja

Psorijaza je kronična imunološki posredovana bolest kože koja se najčešće manifestira kao eritematozni, ljuskavi plakovi. Kod osoba s tamnijim fototipovima kože, eritem može biti manje vidljiv, a postupalne pigmentacijske promjene su izraženije, što može komplicirati i dijagnozu i procjenu težine bolesti. Dermoskopija može pomoći u vizualizaciji vaskularnih i ljuskavih obrazaca koje je makroskopski teško prepoznati tijekom kliničkog pregleda.

37-godišnji muškarac iz Bangladeša s Fitzpatrickovim fototipom V javio se s dvogodišnjom anamnezom plak psorijaze, u početku ograničene na potkoljenice, a kasnije generalizirane na trup i gornje

ekstremitete. Na prvoj procjeni u rujnu 2024., njegov indeks površine i težine psorijaze (PASI) bio je 10, površina tijela (BSA) 10%, a indeks kvalitete života u dermatologiji (DLQI) 8. Dermoskopija reprezentativnih plakova otkrila je svijetlocrvenu pozadinu s pravilno raspoređenim točkastim žilama i difuznim bijelim ljuskicama, uzorak koji vrlo snažno ukazuje na psorijazu. Oralni metotreksat (15 mg tjedno) s folnom kiselinom i lokalnom terapijom u početku je doveo do djelomičnog poboljšanja (PASI 4, BSA 10%, DLQI 5), nakon čega je uslijedilo pogoršanje (PASI 15, BSA 20%, DLQI 10). Metotreksat je prekinut i uveden je acitretin 25 mg dnevno. Nakon otprilike tri mjeseca terapije acitretinom, postignuto je potpuno uklanjanje (PASI 100) bez nuspojava ili laboratorijskih abnormalnosti.
Ovaj slučaj ističe dijagnostičke i praćene izazove psorijaze kod tamnije kože, dodanu vrijednost dermoskopije u potvrđivanju dijagnoze i kontinuiranu relevantnost acitretina kao učinkovite neimunosupresivne sistemske opcije kod pažljivo odabranih pacijenata.

Ključne riječi: psorijaza, acitretin, tamnija koža, dermoskopija, fototip V

Introduction

Psoriasis is a chronic, immune-mediated inflammatory dermatosis that typically presents with well-demarcated, scaly plaques and affects approximately 2–3% of the global population. Plaque psoriasis is the most common clinical subtype (1). In darker skin phototypes, clinical recognition may be more challenging because erythema is less conspicuous and lesions may appear violaceous, grey or primarily hyperpigmented rather than bright red (2). Post-inflammatory hyper- and hypopigmentation are often prominent and can persist after the resolution of active inflammation, contributing significantly to the visible burden of disease and to the patient's quality of life (3).
Dermoscopy has emerged as a valuable non-invasive tool in the evaluation of inflammatory dermatoses, including psoriasis. A dermoscopic pattern characterised by regularly distributed dotted vessels on a light red background with diffuse white scales has been reported as highly sensitive and specific for plaque psoriasis, and is particularly useful when clinical signs are subtle or modified by skin colour (4).
Systemic retinoids, especially acitretin, have long been used in the treatment of psoriasis. Acitretin is a second-generation oral retinoid that regulates keratinocyte proliferation and differentiation and modulates inflammatory pathways (5)an FDA-approved first-line systemic drug for psoriasis treatment, could suppress the proliferation of keratinocytes and downregulate the expression of inflammatory cytokines by modulating signal transducer and activator of transcription (STAT. Contemporary guidelines still list acitretin as a standard systemic option, especially for the palmoplantar type of psoriasis, particularly suitable for patients in whom non-immunosuppressive long-term therapy is desirable (6).
We report a case of plaque psoriasis in a patient with Fitzpatrick phototype V, in whom dermoscopy supported the diagnosis on darker skin and complete clinical remission was achieved with acitretin after an initially only partial and later unstable response to methotrexate.

Case report

A 37-year-old man from Bangladesh with Fitzpatrick skin phototype V presented to our dermatology clinic in September 2024 with a two-year history of skin changes. The first lesions appeared in 2022 as erythematous, scaly plaques on the anterior surfaces of the lower legs. Over the course of 2024, the disease gradually generalised to involve the trunk and upper extremities. There was no history of joint pain, nail changes or other systemic symptoms. Personal and family history were negative for psoriasis and other skin diseases.
Before his first presentation to our clinic, the patient had been treated in primary care with a topical preparation containing betamethasone and salicylic acid for several months without significant improvement. At his first specialist assessment in September 2024, we observed well-defined plaques with adherent whitish scales affecting the lower legs, trunk and extensor surfaces of the upper limbs. Due to the patient's darker phototype, the background erythema appeared subtle and partially masked by post-inflammatory hyperpigmentation. Disease severity was quantified as Psoriasis Area and Severity Index (PASI) 10, body surface area (BSA) 10% and Dermatology Life Quality Index (DLQI) 8.
Dermoscopy of representative plaques was performed using a non-polarised handheld dermatoscope. The lesions showed a light red background with regularly distributed red dotted vessels and diffuse white scales, which is consistent with the classic dermoscopic findings described for plaque psoriasis (7). This pat-

tern, in conjunction with the clinical presentation and distribution, supported the diagnosis of chronic plaque psoriasis in skin of colour.

Baseline laboratory tests, including complete blood count, liver and renal function tests and lipid profile, were within reference ranges. Systemic treatment with oral methotrexate 15 mg once weekly was initiated, together with folic acid 5 mg 24 hours after methotrexate. Topical therapy consisted of a betamethasone–gentamicin cream applied to active plaques.

At the follow-up visit in November 2024, only partial improvement was observed, with residual plaques on the trunk and extremities. Methotrexate was therefore switched to a subcutaneous formulation at the same dose (15 mg weekly), and topical therapy was changed to a foam with a fixed-dose combination of calcipotriol and betamethasone. By January 2025, disease activity had decreased to PASI 4, BSA 10% and DLQI 5.

In March 2025, an interferon-gamma release assay (Quantiferon) was found to be positive during routine screening for systemic therapy. A pulmonology work-up, including chest imaging, excluded active tuberculosis and the patient was advised to continue methotrexate with clinical follow-up.

Despite this, by July 2025 he experienced a clinical flare with renewed generalisation of plaques and increased scaling and pruritus (Figure 1). At that time his PASI was 15, BSA 20% and DLQI 10. Methotrexate was discontinued and systemic therapy was changed to oral acitretin 25 mg daily. The patient was informed about potential adverse effects and the need for regular laboratory monitoring.

At the control visit in October 2025, approximately three months after starting acitretin, complete clearance of psoriatic lesions was documented with achieved PASI 100 (Figure 2). Only faint post-inflammatory hyperpigmentation remained at previously affected sites. The patient reported no mucocutaneous or systemic side effects. Liver enzymes and lipid values remained within reference ranges throughout treatment. Quality of life improved significantly, with a DLQI score of 0. The patient continues acitretin therapy at the same dose with regular clinical and laboratory monitoring.

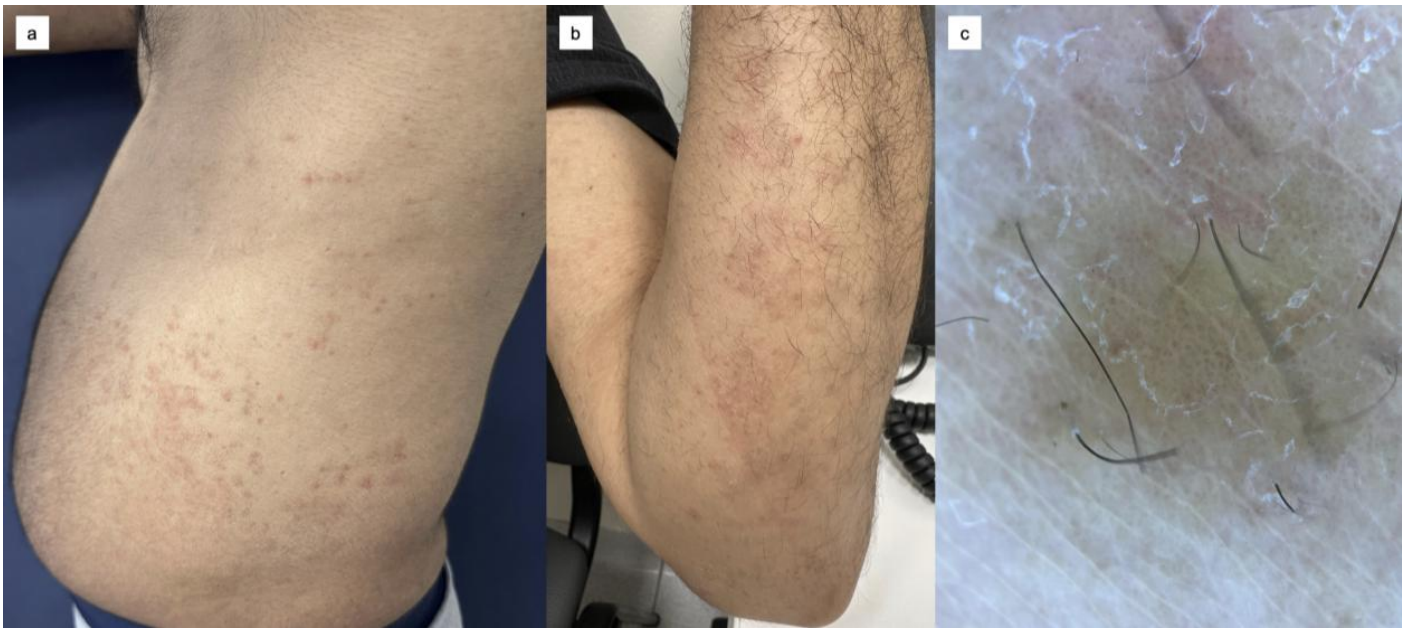

Figure 1. Clinical and dermoscopic findings in July 2025. (a) Multiple small erythematous scaly papules and plaques on the lateral trunk of a 37-year-old man with Fitzpatrick skin phototype V. (b) Similar lesions on the extensor aspect of the forearm, with subtle erythema on dark brown skin and early post-inflammatory hyperpigmentation. (c) Dermoscopy of a representative plaque showing a light red background with regularly distributed dotted vessels and diffuse white scales, consistent with plaque psoriasis.

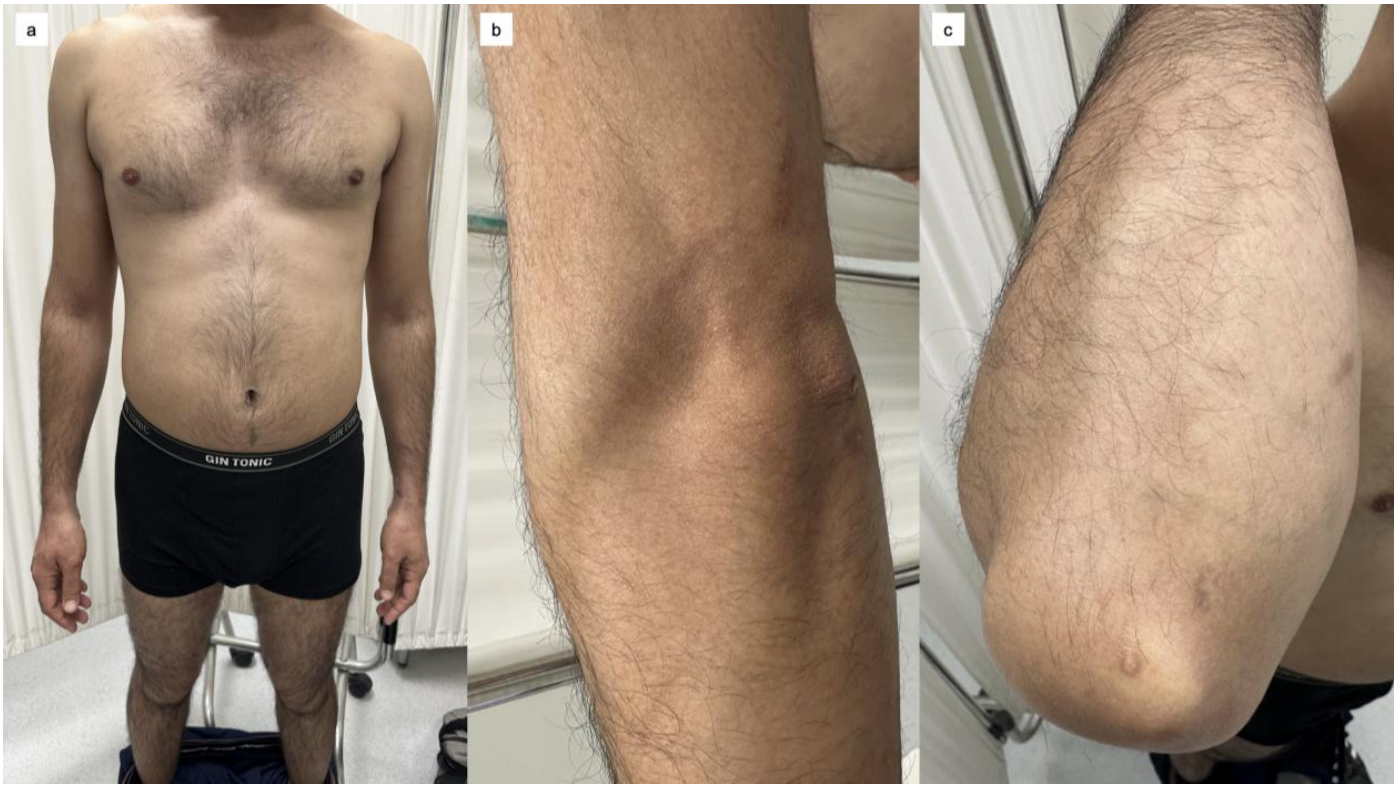

Figure 2. Complete clinical remission after three months of acitretin therapy. (a) Anterior trunk of the 37-year-old man with Fitzpatrick skin phototype V showing complete clearance of psoriatic plaques with only faint post-inflammatory hyperpigmentation. (b) Left elbow and (c) forearm with resolution of previously present erythematous scaly lesions and restoration of normal skin texture following treatment with oral acitretin 25 mg daily.

Discussion

This case illustrates several important aspects of psoriasis diagnosis and management in individuals with darker skin phototypes, as well as the continued relevance of acitretin as a systemic treatment option.

Clinical recognition of psoriasis in skin of colour can be challenging. In darker phototypes, the erythematous component of plaques is often less visible and may appear violaceous, grey or predominantly hyperpigmented rather than bright red, which can lead to under-recognition or misclassification as other papulosquamous disorders (8). Residual dyspigmentation after resolution of active inflammation is common and may further complicate the assessment of current disease activity. These factors necessitate a careful use of validated severity scores such as PASI, BSA and DLQI, alongside photographic documentation, to avoid underestimating the disease burden (9).

Dermoscopy has become an increasingly important adjunct in the evaluation of inflammatory dermatoses, including psoriasis. Multiple studies have confirmed that the combination of regularly distributed dotted vessels, a light red background and diffuse white scales is highly characteristic of plaque psoriasis and can help distinguish it from other scaly erythematous conditions such as eczema or pityriasis rubra pilaris (7). In our patient, this dermoscopic pattern was particularly valuable because the clinical erythema was subtle on the patient's darker skin, while the vascular morphology and scaling pattern remained clearly appreciable dermoscopically. This underscores the role of dermoscopy in improving diagnostic confidence and monitoring among patients with skin of colour (8).

Systemic methotrexate remains a first-line conventional systemic therapy for moderate-to-severe plaque psoriasis in many guidelines due to its favourable efficacy-to-cost ratio and long-standing experience (6). In this case, methotrexate induced a partial response but did not achieve stable control, and the patient experienced a flare despite adequate dosing and concurrent topical therapy. The positive interferon-gamma release assay, although not associated with active tuberculosis, also prompted reconsideration of prolonged immunosuppressive treatment.

Acitretin, by contrast, is not directly immunosuppressive. It exerts its effects primarily through binding to nuclear retinoic

acid receptors, thereby regulating keratinocyte proliferation and differentiation and modulating inflammatory gene expression (5,10)an FDA-approved first-line systemic drug for psoriasis treatment, could suppress the proliferation of keratinocytes and downregulate the expression of inflammatory cytokines by modulating signal transducer and activator of transcription (STAT. Clinical studies and reviews have shown that acitretin is effective in various forms of psoriasis, with monotherapy generally providing moderate but clinically meaningful improvement, and higher response rates when combined with phototherapy or other systemic agents (10). Current American Academy of Dermatology and National Psoriasis Foundation (AAD–NPF) and European guidelines continue to include acitretin among recommended systemic non-biologic therapies, particularly for patients requiring long-term, non-immunosuppressive options (6,11). In our patient, acitretin at a daily dose of 25 mg led to complete clearance (PASI 100) within approximately three months, with good tolerability and stable laboratory parameters. This outcome is at the upper end of the response range typically reported for acitretin monotherapy in plaque psoriasis, where complete remission is achieved in a subset of patients, while many others attain partial but clinically meaningful improvement (10). The favourable response in this case may be related to the patient's relatively young age, absence of significant comorbidities and good adherence.

An additional consideration in darker skin phototypes is the management of pigmentary sequelae, which can be as distressing to patients as the inflammatory component of psoriasis itself. By effectively suppressing keratinocyte hyperproliferation and inflammation, acitretin not only cleared active plaques but also allowed gradual fading of post-inflammatory hyperpigmentation, resulting in a more uniform skin tone over time. This aspect is particularly relevant for patients with skin of colour, in whom pigmentary changes often represent a major driver of psychosocial burden (1,8).

Conclusion

Plaque psoriasis in individuals with darker skin phototypes can be difficult to recognise and accurately assess due to less conspicuous erythema and prominent pigmentary changes. Dermoscopy, by revealing regularly distributed dotted vessels on a light red background with diffuse white scales, can significantly enhance diagnostic confidence in such patients. This case illustrates that acitretin, a well-established systemic retinoid, can induce complete and well-tolerated remission in plaque psoriasis after inadequate and unstable response to methotrexate, while offering a non-immunosuppressive long-term treatment option. Clinicians should consider acitretin within an individualised treatment strategy for patients with skin of colour and moderate-to-severe psoriasis, particularly when immunosuppressive therapies are less desirable.

References

1. Gkini M, Nakamura M, Alexis AF, Londoño-Garcia A, Van De Kerkhof PCM, Doss N, et al. Psoriasis in People With Skin of Color: An Evidence-Based Update. Int J Dermatol. 2025 Apr;64(4):667–77.
2. Yadav G, Yeung J, Miller-Monthrope Y, Lakhani O, Drudge C, Craigie S, et al. Unmet Need in People with Psoriasis and Skin of Color in Canada and the United States. Dermatol Ther. 2022 Nov;12(11):2401–13.
3. Hauptman M, El Othmani A, Pazhyanur S, Nakamura M. Narrowband-Ultraviolet B Phototherapy for Psoriasis Treatment in Skin of Color: A Systematic Review and Meta-Analysis. Photodermatol Photoimmunol Photomed. 2025 Sept;41(5):e70051.
4. Wu Y, Sun L. Clinical value of dermoscopy in psoriasis. J Cosmet Dermatol. 2024 Feb;23(2):370–81.
5. Lan J, Li Y, Wen J, Chen Y, Yang J, Zhao L, et al. Acitretin-Conjugated Dextran Nanoparticles Ameliorate Psoriasis-like Skin Disease at Low Dosages. Front Bioeng Biotechnol. 2022 Jan 7;9:816757.
6. Menter A, Strober BE, Kaplan DH, Kivelevitch D, Prater EF, Stoff B, et al. Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with biologics. J Am Acad Dermatol. 2019 Apr;80(4):1029–72.
7. Nwako-Mohamadi MK, Masenga JE, Mavura D, Jahanpour OF, Mbwilo E, Blum A. Dermoscopic Features of Psoriasis, Lichen Planus, and Pityriasis Rosea in Patients with Skin Type IV and Darker Attending the Regional Dermatology Training Centre in Northern Tanzania. Dermatol Pract Concept. 2019 Jan 31;44–51.
8. Yadav G, Miller-Monthrope Y, Rao J, Adam DN, Asiniwasis RN, Grewal P, et al. Optimizing the management of psoriasis in patients with skin of color: A Canadian Delphi consensus. JAAD Int. 2025 Apr;19:12–20.
9. Yadav G, Rao J, Miller-Monthrope Y, Abbarin N, Park-Wyllie L, Yeung J. Terminology, classification systems, and evaluation tools to describe skin of color in psoriasis and other dermatological conditions. JAAD Rev. 2024 Dec;2:156–63.
10. Dogra S, Yadav S. Acitretin in psoriasis: an evolving scenario. Int J Dermatol. 2014 May;53(5):525–38.
11. Nast A, Smith C, Spuls PI, Avila Valle G, Bata-Csörgö Z, Boonen H, et al. EuroGuiDerm Guideline on the systemic treatment of Psoriasis vulgaris – Part 1: treatment and monitoring recommendations. J Eur Acad Dermatol Venereol. 2020 Nov;34(11):2461–98.