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Review

Psoriasis: Diagnosis and Treatment in the Present Day - An Article Review

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ABSTRACT

Psoriasis is a chronic, immune-mediated inflammatory dermatosis affecting 2 %–3 % of the global population, with significant psychosocial, metabolic and cardiovascular repercussions. Advances over the past five years have redefined diagnosis, now grounded in high-resolution digital dermoscopy, artificial intelligence and quality-of-life metrics, while therapy has evolved from phototherapy and classic immunosuppressants to target-specific biologic drugs (anti-IL-17, anti-IL-23) and small molecules such as the TYK-2 selective inhibitor deucravacitinib. Dermoscopy has demonstrated 92 % sensitivity and 87 % specificity in differentiating psoriatic plaques from other dermatoses. Phase III trials have shown that bimekizumab and risankizumab achieve PASI-100 rates exceeding 60 % at 52 weeks; deucravacitinib, as oral monotherapy, exhibited efficacy comparable to monoclonal antibodies with an acceptable safety profile. Deep-learning models integrated into teledermatology have expanded access to reference centers, especially in remote regions. Despite progress, challenges remain: the high cost of biologics, underrepresentation of high phototypes in image repositories, long-term safety gaps and access barriers in low-income countries. In conclusion, contemporary psoriasis management must be individualized, multidisciplinary and guided by objective severity scales, comorbidity assessment and rational selection of targeted therapies, underscoring the need for constant updating of national protocols.

Keywords: Psoriasis; Diagnosis; Biological therapy; TYK-2; Artificial intelligence

Introduction

Plaque psoriasis (psoriasis vulgaris) is the most prevalent clinical form of a chronic, relapsing and multifactorial disease arising from the complex interplay of genetic predisposition, innate/adaptive immunity and environmental factors[1]. Polymorphisms at loci such as HLA-C*06:02, IL23R and TYK2 induce sustained activation of the IL-23/IL-17 axis, culminating in keratinocyte hyperproliferation, dermal angiogenesis and

leukocyte infiltration[2]. Global prevalence ranges from 0.1 % in Asian populations to 8.5 % in Northern Europe; in Brazil, estimates indicate 1.3 %, although regional disparities are attributed to underreporting[3].

Systemic consequences transcend the skin: metabolic syndrome, nonalcoholic fatty liver disease, psoriatic arthritis, anxiety, depression and a 50 % higher cardiovascular risk than the general population[4]. Such evidence mandates a multidisciplinary approach involving dermatology, rheumatology, endocrinology, nutrition and psychology. Traditionally, diagnosis was predominantly clinical, but dermoscopy has been incorporated into practice, revealing characteristic patterns regularly distributed pinpoint vessels and white scales-that reduce unnecessary biopsies[5]. Concurrently, computer vision algorithms trained on large image repositories achieve ≥ 85 % accuracy in classifying severity according to the Psoriasis Area and Severity Index (PASI), enabling screening in primary care[6].

Tele dermatology, accelerated by the COVID-19 pandemic, further propelled this adoption, increasing resolution rates in remote locations[7]. Regarding treatment, the therapeutic timeline has advanced from coal tar baths, UVA/UVB irradiation and broad systemic agents-methotrexate, cyclosporine, acitretin to molecularly targeted therapy. Anti-TNF-α biologics ushered in the modern era, followed by anti-IL-12/23 (ustekinumab), anti-IL-17 (secukinumab, ixekizumab, bimekizumab) and second-generation anti-IL-23 (guselkumab, tildrakizumab, risankizumab) agents that offer sustained skin clearance with a superior safety profile (FERRANTE et al., 2024). In 2024, the global approval of deucravacitinib the first selective TYK-2 inhibitor marked a new paradigm, combining the convenience of a once-daily oral dose with efficacy approaching that of monoclonal antibodies[8].

However, challenges persist: high cost, access limitations within the public health system, lack of long-term data in pregnant women, the elderly and Afro-descendant populations and the need for protocols adapted to local realities. Interest is also growing in complementary therapies, such as photobiomodulation and standardized phytopharmaceuticals; yet, evidence still lacks robust controlled trials (YADAV et al., 2025). Therefore, a current synthesis is essential to guide clinicians and policymakers.

Objectives

Critically evaluate evidence published from 2023 to 2025 on diagnostic methods, severity stratification and current therapeutic options in psoriasis, synthesizing recommendations for Brazilian clinical practice and identifying gaps for future research.

Materials and Methods

An article review was conducted using the PubMed, SciELO, Google Scholar and ScienceDirect databases.

Discussion

Routine adoption of dermoscopy has reduced biopsy requests by 30 %, shortening diagnostic time and decreasing costs[5]. Deep-learning models, such as PsoriNet, demonstrated an AUC of 0.92 for identifying psoriatic plaques in smartphone-captured images, expanding screening in primary care[6]. Nevertheless, studies indicate underrepresentation of high phototypes, which may introduce classification bias[7]. In systemic treatment, a network meta-analysis involving 19 randomized trials found bimekizumab superior to risankizumab and secukinumab in achieving PASI-100, with an NNT of 2 for total clearance at 52 weeks and comparable safety[9]. These results support its inclusion as first-line therapy in the EuroGuiDerm 2025 guidelines[10].

Deucravacitinib reduced the risk of therapeutic failure by 58 % versus placebo in early psoriatic arthritis[8], offering a convenient oral alternative, although laboratory monitoring is required due to potential cytopenia risk. Observational studies suggest a decrease in major cardiovascular events in biologic users compared to classic immunosuppressants, possibly due to systemic reduction of inflammatory mediators[4]. However, prospective long-term cohorts remain necessary to confirm causal relationships. In rare subtypes, a national study highlighted an average diagnostic delay of 1.8 years in generalized pustular psoriasis and heterogeneity in secukinumab use during flare-ups, evidencing protocol gaps[11].

The global inflation of biologics has spurred interest in low-cost phytopharmaceuticals; PsoriaCIM, a lavender-based cream, showed anti-TNF-α activity in vitro, but clinical trials are lacking[12]. Quality-of-life instruments specific to psoriasis PSSD and PSORIQoL demonstrated content validity superior to the Dermatology Life Quality Index (DLQI), influencing therapeutic-switch decisions[13]. Mandatory incorporation of patient-reported outcomes by regulatory agencies reflects the shift toward patient-centered care[14,15].

Conclusion

Modern psoriasis management transcends the cutaneous domain and demands integration of accurate diagnosis, systemic risk stratification and personalized therapy. Dermoscopy, coupled with artificial intelligence, democratizes early diagnosis, especially in scenarios with dermatologist scarcity. Next-generation biologics particularly bimekizumab and Risankizumab have achieved skin clearance previously unimaginable and small molecules such as deucravacitinib promise to simplify treatment adherence. However, realizing the full benefits of these advances depends on overcoming access barriers, especially within the public health system. Governmental programs must update the Clinical Protocol and Therapeutic Guidelines (PCDT) for psoriasis, incorporating objective severity scales, cardiometabolic comorbidity screening and patient-reported outcomes as reimbursement criteria.

Continuing education campaigns should train primary care professionals in basic dermoscopy and the use of validated apps for screening. On the horizon, emerging therapies such as tolerogenic peptide vaccines, CRISPR-Cas gene editing to correct risk variants and narrow-band photo biomodulation aim for sustained remission at lower cost. Machine-learning-based pharmacovigilance could detect adverse event patterns early, protecting vulnerable groups. Future research should adopt multicenter designs, include underrepresented populations and incorporate cost-effectiveness analysis adapted to the Latin American context. In sum, psoriasis exemplifies the convergence of precision medicine, digital technology and patient-centered care. To transform science into real benefit, it is imperative to ensure equitable access, strengthen public policies and foster translational research. Only then will it be possible to offer dignity and quality of life to the millions of people living with psoriasis in Brazil and worldwide.

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