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Commentary

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Advances in Phototherapy for Chronic Psoriasis Management

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Abstract

Phototherapy remains a cornerstone in the treatment of chronic psoriasis, offering a safe and effective alternative or adjunct to systemic therapies. This article explores recent developments in phototherapy techniques, including narrowband UVB (NB-UVB), excimer laser, and combination therapies, and evaluates their impact on disease remission and quality of life. We examine advancements in delivery systems, optimized dosing schedules, and adjunctive agents that enhance treatment response. The article also addresses safety considerations, long-term monitoring, and patient-specific factors influencing phototherapy outcomes. These insights provide clinicians with updated strategies for integrating phototherapy into personalized psoriasis management plans.

Keywords: Psoriasis; Phototherapy; NB-UVB; Excimer laser; Chronic skin disorders

Introduction

Psoriasis is a chronic, immune-mediated skin disorder characterized by hyperproliferation and inflammation of keratinocytes. It significantly impacts patients' physical, emotional, and social well-being. While systemic treatments and biologics have gained prominence, phototherapy continues to play a pivotal role in achieving remission for mild to moderate cases, and as a maintenance option for patients with contraindications to systemic agents. The integration of advanced phototherapy devices and combination protocols has improved treatment precision, minimized side effects, and enhanced patient adherence [1].

Description

NB-UVB phototherapy has largely replaced broadband UVB due to its superior efficacy and reduced risk of burning. The use of 311–313 nm wavelengths targets psoriatic lesions while minimizing exposure to surrounding healthy skin. The excimer laser, emitting targeted UVB light, allows precise treatment of localized lesions, reducing cumulative UV exposure. Combination approaches, such as phototherapy with topical vitamin D analogs or coal tar, enhance lesion clearance and extend remission periods. Recent advancements include wearable phototherapy devices, at-home NB-UVB units, and AI-guided dose adjustments, which improve accessibility and personalization [2,3].

Results

Clinical studies show NB-UVB phototherapy achieves 75% improvement in Psoriasis Area and Severity Index (PASI) scores within 8–12 weeks for most patients. Excimer laser treatment has demonstrated efficacy in resistant plaques with faster clearance compared to NB-UVB. Combination therapy with topical agents increases treatment response rates and reduces the total number of phototherapy sessions required. Patient-reported outcomes indicate improved quality of life, reduced itching, and longer remission durations [4].

Discussion

While phototherapy remains effective, challenges include accessibility, time commitment, and potential long-term photodamage. Emerging strategies, such as home-based phototherapy units, could address logistical barriers, though proper patient education and monitoring are essential to prevent misuse. Advances in laser technology and precision dosing further minimize risks. Integration with biologic therapy may provide synergistic effects, particularly in patients with partial responses to biologics alone. Future research should focus on optimizing treatment schedules, evaluating long-term safety, and expanding access to underserved populations [5].

Conclusion

Phototherapy remains a vital, evolving treatment modality for chronic psoriasis. Advances in device technology, delivery precision, and combination protocols have significantly improved outcomes. By integrating phototherapy into comprehensive, patient-centered care plans, clinicians can achieve effective disease control with minimal systemic exposure.

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