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Managing Dermatologic Complications of Systemic Therapies

Keiko Matsuda*

Department of Cosmetic and Medical Dermatology, Shinsakura University Hospital, Osaka, Japan

Introduction

Systemic therapies are indispensable in managing a wide array of diseases, yet they frequently precipitate dermatologic complications that can significantly affect patient well-being and treatment adherence. These adverse cutaneous events span a spectrum from mild issues like xerosis and pruritus to life-threatening reactions such as Stevens-Johnson syndrome and toxic epidermal necrolysis. Understanding the prevalence, clinical manifestations, and effective management strategies for these side effects is paramount for optimizing patient care and ensuring treatment continuity. The Department of Cosmetic and Medical Dermatology at Shinsakura University Hospital has undertaken efforts to characterize these reactions and develop robust interventions aimed at mitigating their impact. Systemic cancer therapies, while a cornerstone of modern oncology, are often associated with a range of dermatologic toxicities that can compromise a patient's quality of life and necessitate treatment modifications. Recognizing and managing these cutaneous adverse events is crucial for maintaining therapeutic efficacy and improving patient outcomes. The ongoing research in this field aims to provide clinicians with the knowledge and tools to effectively address these challenges. The advent of targeted therapies and immunotherapies has revolutionized cancer treatment, introducing novel mechanisms of action that, in turn, are linked to a unique set of dermatologic toxicities. These newer agents, while highly effective, require vigilant monitoring and proactive management to prevent dose reductions or treatment cessations that could compromise oncologic outcomes. A thorough understanding of these specific toxicities is thus essential. Conventional chemotherapy agents have been associated with well-documented cutaneous side effects that can substantially diminish a patient's quality of life and lead to significant distress. An updated review of these reactions, focusing on their characteristic clinical presentations and available therapeutic approaches, is vital for clinicians managing patients undergoing chemotherapy. Drug hypersensitivity reactions, a broad category encompassing various dermatologic manifestations, necessitate a meticulous diagnostic process and individualized treatment plans. The ability to identify specific drug eruption patterns and implement prompt interventions is critical for preventing severe sequelae and ensuring patient safety. Dermatologic complications arising from biologic therapies, especially in the context of autoimmune diseases and cancer treatment, are increasingly recognized as significant concerns. A comprehensive review of the spectrum of skin reactions associated with these potent agents, alongside their management strategies, is of considerable clinical importance. Pruritus, a common and often debilitating dermatologic complication of systemic therapy, can profoundly impact a patient's quality of life, leading to sleep disturbances, anxiety, and social isolation. Exploring the underlying mechanisms and effective management strategies for treatment-induced pruritus is crucial for improving patient comfort and adherence. Severe cutaneous adverse reactions (SCARs), including Stevens-Johnson syndrome and toxic epidermal necrolysis, represent rare but potentially fatal dermatologic emergencies. A multidisciplinary approach involving critical care and dermatologic expertise is essential for their effective management and for improving patient prognosis. Drug-induced nail changes, while often overlooked, can be a significant and distressing side effect of various systemic therapies. A detailed review of the diverse nail dystrophies caused by medications and their therapeutic interventions is necessary for comprehensive patient care. Acneiform eruptions represent a frequent dermatologic adverse event associated with systemic therapies, particularly epidermal growth factor receptor inhibitors. This review focuses on the underlying pathophysiology, characteristic clinical presentation, and management strategies for treatment-induced acne. Dermatologists play an indispensable role in the management of the wide array of cutaneous manifestations that arise from systemic treatments. Fostering collaborative efforts between oncologists, dermatologists, and other specialists is key to effectively addressing these complications and enhancing patient outcomes through coordinated care.

Description

Systemic therapies are frequently associated with a range of dermatologic complications, impacting patient quality of life and treatment adherence. These can vary from common issues like rash, pruritus, and xerosis to severe, life-threatening reactions such as Stevens-Johnson syndrome and toxic epidermal necrolysis. Understanding the incidence, clinical presentation, and management of these adverse cutaneous events is crucial for optimizing patient care. The Department of Cosmetic and Medical Dermatology at Shinsakura University Hospital has focused on characterizing these reactions and developing effective interventions. [1] Conventional chemotherapy agents are known to induce a variety of skin toxicities that can significantly affect patient well-being. This review provides an updated overview of these reactions, emphasizing their clinical characteristics and therapeutic approaches. [3] The emergence of targeted therapies and immunotherapies in oncology has introduced a distinct spectrum of dermatologic toxicities. These often require proactive management to prevent dose reductions or treatment discontinuation. This work details the common skin reactions seen with these newer agents. [2] Drug hypersensitivity reactions, which can manifest as drug rashes, require a careful diagnostic approach and tailored treatment. This article highlights the importance of recognizing specific drug eruption patterns and implementing timely interventions to prevent serious sequelae. [4] Dermatologic complications of biologic therapies, particularly in autoimmune diseases and oncology, are increasingly recognized. This review focuses on the spectrum of skin reactions associated with these potent agents and their management. [5] Pruritus is a com-

mon and distressing dermatologic complication of systemic therapy, significantly impacting patient quality of life. This study explores the mechanisms and management strategies for treatment-induced pruritus. [6] Severe cutaneous adverse reactions (SCARs) such as Stevens-Johnson syndrome and toxic epidermal necrolysis require a multidisciplinary approach for effective management. This paper outlines the critical care and dermatologic management of these life-threatening conditions. [7] Drug-induced nail changes are a frequently overlooked but significant side effect of systemic therapies. This article reviews the various nail dystrophies caused by medications and their management. [8] Acneiform eruptions are a common dermatologic adverse event associated with epidermal growth factor receptor inhibitors and other systemic therapies. This review focuses on the pathophysiology, clinical presentation, and management of treatment-induced acne. [9] Dermatologists play a crucial role in managing the diverse cutaneous manifestations of systemic treatments. This article emphasizes the collaborative approach required between oncologists, dermatologists, and other specialists to effectively address these complications and improve patient outcomes. [10]

Conclusion

Systemic therapies, commonly used to treat various diseases, frequently lead to dermatologic complications. These adverse events range from mild issues like dry skin and itching to severe, life-threatening conditions such as Stevens-Johnson syndrome and toxic epidermal necrolysis. This is particularly relevant with newer treatments like targeted therapies, immunotherapies, and biologic agents used in oncology, which have their own specific skin reactions. Conventional chemotherapy also contributes to these toxicities. Effective management of these drug-induced skin reactions, including rashes, acneiform eruptions, and nail changes, requires a thorough understanding of their clinical presentation and underlying mechanisms. A multidisciplinary approach involving dermatologists and oncologists is essential for optimizing patient care, preventing treatment modifications, and improving overall outcomes. Prompt recognition and intervention are key to mitigating the impact of these cutaneous side effects on patient quality of life.

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Conflict of Interest

None.

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Address for Correspondence: Keiko, Matsuda, Department of Cosmetic and Medical Dermatology, Shinsakura University Hospital, Osaka, Japan , E-mail: k.matsuda@shinsakura.jp

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