

IADVL's Textbook on

CUTANEOUS ADVERSE DRUG REACTIONS

A Comprehensive Guide



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Chapter

42

Adverse Drug Reactions To Topical Dermatology Therapy

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SUMMARY

Adverse reactions to topical dermatotherapeutics are frequent and can either be limited to the skin or can occasionally be systemic as well. Cutaneous side effects may reflect the individuals' intolerance or allergy to the agents. Cutaneous manifestations common to most topicals are contact reactions—irritant, allergic, urticarial, or photosensitive. Other cutaneous adverse reactions could be atrophy, pigmentary alterations, etc. that may be specific to individual topical agents. Topical agents can induce, modify, and even paradoxically aggravate dermatoses for which they were primarily administered. The systemic effects may be indicative of either systemic toxicity or systemic hypersensitivity reactions following percutaneous absorption of the drug. This chapter describes in detail various forms of cutaneous and systemic adverse reactions to various topical agents.

INTRODUCTION

Dermatologists have the distinctive advantage of treating many conditions in a targeted manner using topical therapy that ensures greater concentration of the drug localized at the site of the disease thereby reducing systemic side-effects associated with parenteral administration. Optimal management of a dermatosis using a topical medication is not only determined by the optimal concentration of the drug but also by the appropriateness of other components of the topical preparation, quantity and frequency of application, and duration of use. Adverse effects to topical therapeutics arise either due to individual's inherent sensitivity to the component(s) of the formulation or to any aberration in the above determinants. As with any therapeutic preparation, adverse reactions to topical therapeutics can also be anticipated or idiosyncratic.

COMPONENTS OF TOPICAL PREPARATIONS CAUSING REACTIONS

The major components of a topical therapeutic are the drug (*active ingredient*) intended to treat the disease and the *vehicle* into which the drug is dispensed. Other *inactive ingredients* making up a topical formulation are preservatives, emulsifiers, absorption enhancers, and fragrances in some (Table 42.1).¹³

Adverse reactions may occur to any one or more of these components.

ADVERSE CUTANEOUS EFFECTS TO TOPICAL AGENTS

Adverse effects to topical agents can be attributed to host's sensitivity to the medications (contact reactions) or to the inherent properties of these agents. Furthermore, topical therapeutics may induce and/or exacerbate certain dermatoses (e.g. drug-induced acne), and paradoxically induce or worsen the condition for which they are employed.

CONTACT REACTIONS

Contact reactions are by far the commonest adverse effects of topical agents. These can occur in the form of irritant or allergic contact reactions, photosensitive contact reactions, and contact urticaria.

Irritant Contact Reactions

These are nonimmunological, dose/concentration-dependent caustic reactions occurring after application of the topical agent. Clinical manifestations range from mild erythema to overt cutaneous necrosis and scarring, usually confined to the site of contact (Fig. 42.1). Such reactions are more common with topical