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Skin, Trauma, Rheumatism, and Pain

This chapter deals first with plant drugs that are commonly used for dermatologic indications (local inflammations, eczema, neurodermatitis, acne, wound healing problems). A separate section deals with herbal remedies that are used externally or in some cases internally for the treatment of trauma and its sequelae (bruises, contusions, hematomas, fracture edema) and of osteoarthritis and rheumatic complaints. The chapter concludes with a look at the potential uses of externally applied preparations of essential oils in the treatment of pain. One phytomedicine taken orally for the prophylaxis of migraine headache is also included. Given the medical and economic importance of analgesic remedies, it is important to give due attention to possible phytotherapeutic alternatives.

8.1 Dosage Forms and Preparations

Every medication consists of the active drug and one or more excipients or diluting agents to give the drug a suitable form (see Sect. 1.4). With remedies for external use, the action of the medication depends much more on the vehicle than in the case of orally administered drugs. First, the vehicle may produce a marked effect of its own (cooling, drying, moisturizing, occluding) that contributes more to the overall effect of the medication than the drug substance itself. Second, the percutaneous absorption of the drug substance depends critically on the nature of the vehicle (Fig. 8.1).

For example, petroleum jelly produces a strong occlusive effect that promotes absorption by increasing the degree of hydration of the epidermis. Other vehicles such as powders or detergents that draw moisture from the stratum corneum tend to retard penetration. Ethanol is a penetration enhancer, explaining why, for example, tincture of arnica has a much greater allergenicity than arnica cream.

As noted above, the vehicle can greatly affect the moisture content of the stratum corneum. Because of these intrinsic physicochemical actions, dermatologic agents should be administered in a base that is appropriate for the patient’s skin type and for the particular stage of a skin disease. The basic rule is that formulations with a high water content, which have a cooling and drying action, are indicated for oily skin and acute inflammatory conditions,
whereas fatty occlusive bases should be used for treating chronic or subcutaneous skin disorders (Fig. 8.2).

An important aspect in the treatment of inflammatory skin diseases is to protect the skin from external injury or irritation. This applies particularly to the various eczematous diseases, all of which, regardless of etiology, cause progressive damage to the stratum corneum. As the protective function of the epidermis is lost, the skin becomes increasingly susceptible to irritation. Demulcents and protectants serve to protect the skin, especially of the hands, from chemical agents and soap solutions. Plant oils, usually mixed with petroleum jelly or lanolin to form a fatty cream, are suitable for this purpose. Protection from organic solvents is afforded by botanically derived film-forming agents such as tragacanth and alginates. The galenic formulations for externally applied herbal remedies basically correspond to those of topically applied synthetic products. Plant extracts are generally more sensitive to

![Fig. 8.1. The efficacy of medications for topical use does not depend on the drug substance alone.](image)

![Fig. 8.2. Types of vehicles and excipients used in topical medications (after Beck, 1991).](image)