



19

*Sensitive Skin and Eczematous Dermatoses*

Arun C. Inamadar and Aparna Palit

**Introduction**

*Sensitive skin* is defined as a "skin less tolerant to frequent and prolonged use of cosmetics and toiletries and is self diagnosed, unaccompanied by any evident physical signs of irritation" (1). Currently, sensitive skin is a commonly encountered entity among cosmetic consumers and professionals. *Sensitive skin subjects* have been described as "people complaining of severe sensations of discomfort such as burning, stinging or itching after application of cosmetics or toiletries, such as sunscreens and soaps without any clinical stigmata like scaling, induration and/or erythema that would be expected in known inflammatory or allergic processes" (2).

Eczematous dermatoses are common dermatological disorders. The most common type of eczematous dermatitis is atopic dermatitis (AD). Other common eczematous dermatoses are allergic contact dermatitis (ACD), irritant contact dermatitis (ICD), and seborrheic dermatitis (SD). Principles of treatment of eczematous dermatoses include general skin care, patient education about avoidance of irritants, skin hydration, and the use of topical corticosteroids as and when necessary (3).

The eczematous skin of allergic contact dermatitis is more susceptible to various environmental influences, for example, chemical or mechanical irritation, climatic conditions, and skin care products. On the other side, irritated skin might imply a risk for enhanced sensitization.

The interrelation between eczematous dermatoses and sensitive skin is complex and can be discussed from various perspectives. It appears that individuals with a contact allergy/eczematous dermatitis do have higher skin sensitivity. For example, the eczematous skin of ACD is more susceptible to various environmental influences, such as chemical or mechanical irritation, climatic conditions, and skin care products. However, the mechanism is rather complex.

In this chapter, an attempt has been made to differentiate these two different but often confused conditions. In addition, the pathomechanism, clinical features, diagnosis, and management of these conditions have been discussed (4).

**Pathophysiology**

The etiology of sensitive skin is poorly understood. There is a decrease in the *tolerance threshold* of the skin without any immune or allergic mechanism (5). The condition is generally attributed to heightened neurosensory input and/or jeopardized skin barrier (6).

Figure 19.1 depicts the pathomechanism involved in sensitive skin.

The pathophysiological mechanism of the most common form of contact dermatitis (CD), the ICD, is as follows (7): There is inflammation arising due to release of proinflammatory cytokines derived mainly from the keratinocytes, usually in response to chemical stimuli, resulting in direct recruitment and activation of T lymphocytes. The main pathophysiological changes are skin barrier disruption, epidermal cellular changes, and cytokine release.

Individuals with a history of AD are prone to develop ICD of the hands. Polymorphisms in the *FLG* gene, which result in loss of flaggrin production, may alter the skin barrier and are a predisposing factor for AD. *FLG* null alleles are associated with increased susceptibility to chronic ICD (8). ACD results

145