Eczema and dermatitis are synonyms for a disease that is the most commonly seen in dermatology practice. Eczema/dermatitis has the symptoms of itching, reddening, scaling, and edematous papules, and the condition progresses in a specific inflammatory reaction pattern. Eczema/dermatitis is histopathologically characterized by intercellular edema called spongiosis, which can be caused by extrinsic factors, such as irritants or allergens, or by intrinsic factors, such as atopic diathesis. These factors interact in complex ways, and extrinsic and intrinsic factors are seen together in many cases. There is no international agreement on the subcategories of eczema. If the cause is not identified, eczema may be called acute, subacute or chronic, depending on the clinical and pathological features.

**Eczema**

Synonym: Dermatitis

**Outline**

- Eczema and dermatitis are synonymous.
- Pathologically, eczema is accompanied by itching, reddening, scaling, and edematous or serous papules.
- Histopathologically, it is characterized by intercellular edema (also called spongiosis).
- It accounts for one-third of all dermatology cases.
- Extrinsic and intrinsic factors are simultaneously involved in its onset.
- The first-line treatment is topical steroid application.

**Clinical features**

Itchy edematous erythema forms, on which papules and serous papules are produced. After the formation of vesicles, pustules, erosions, crusts and scales (Fig. 7.1), the condition begins to subside. The progress of eczema is illustrated in the chart (Fig. 7.2). In the acute stage, these symptoms are present singly or together. In the chronic stage, acanthosis, lichenification, pigmentation and depigmentation are found, in addition to the symptoms of the acute stage.

**Pathogenesis**

Both extrinsic and intrinsic factors are involved in eczema (Fig. 7.5). When an extrinsic agent such as a drug, pollen, house dust, or bacteria invades the skin, an inflammatory reaction is induced to eliminate the foreign substance. The severity and type of reaction vary according to intrinsic factors such as seborrhea, dyshidrosis, atopic diathesis, and the health condition of the patient.

**Pathology**

Eczema is characterized by intercellular edema (spongiosis) (Fig. 7.3). In the acute stage, it is accompanied by exocytosis of lymphocytes and spongiotic bulla. In the chronic stage, hyperkeratosis,
parakeratosis, irregular acanthosis, and elongation of rete ridges are observed. Spongiosis and spongiotic bulla are less severe in chronic eczema than in acute eczema.

Classification

Eczemas are generally classified by cause (Table 7.1). These causes interact in complex ways and are not always clearly identifiable. The name of the disease may differ from country to country.

**a. Eczema with unidentified cause**

When the cause is not identified, eczema is simply called acute, subacute or chronic, according to the clinical findings, the course of the eruption, and the pathological findings. There is no clear definition of eczema. Lesions in various stages often exist
together on the same individual. Eczema with unidentified cause is usually considered contact dermatitis with the involvement of an extrinsic substance. Topical steroids and oral antihistamines are applied as the first line of treatment for eczema at all stages.

1. Acute eczema

Acute eczema is accompanied by exudative erythema, edema, and sometimes vesicles (Fig. 7.4). It is newly produced eczema only several days after its onset. Intercellular edema (spongiosis), intense dermal edema, and inflammation occur. Acanthosis usually does not.

2. Subacute eczema

Subacute eczema has a severity between that of acute and that of chronic. Such eczema is accompanied by erythema and edema, and it is slightly lichenoid. Mild edema is produced in the epidermis. Acanthosis and parakeratosis are observed.

3. Chronic eczema

Chronic eczema is characterized clinically by lichenification. When acute eczema continues for more than one week after onset, it is likely to appear lichenified, and the diagnosis is chronic eczema. Acanthosis and parakeratosis are noticeable histopathologically (Fig. 7.6); however, there is less infiltration of inflammatory cells into the epidermis than with acute and subacute eczema.

b. Eczemas with more specific names according to their distinguishing features

1. Contact dermatitis

- Contact dermatitis is localized to the site of extrinsic stimulation by foreign substance or allergic reaction.
- Eczema reactions such as reddening and blistering occur at the contact site.
- There are specific types of contact dermatitis, such as diaper dermatitis and housewife’s hand eczema.
- The causative substances include certain plants, chemical agents, and nickel, mercury and other metals.
- Patch testing is useful for diagnosis. Topical steroid application is the first-line treatment. The causative agent should be eliminated.

Clinical images are available in hardcopy only.

Fig. 7.6 Chronic eczema.
Hyperkeratosis is severe, as in tylosis. Erythema and fissures are seen.

Clinical images are available in hardcopy only.

Fig. 7.7-1 Contact dermatitis.
a: “Ginkgo nut dermatitis.” This patient touched his face without washing his hands after gathering ginkgo nuts.