

Chapter
7

Eczema and Dermatitis

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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,

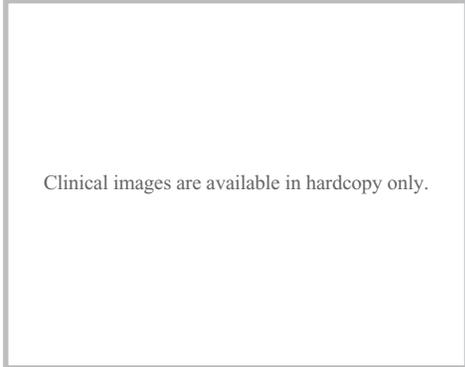
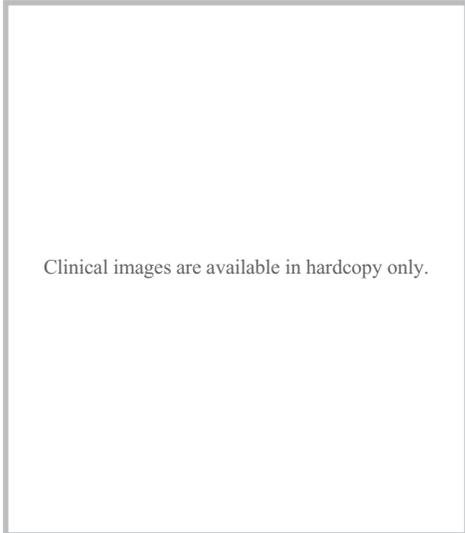


Fig. 7.1 Eczema.
16-year-old Japanese woman with acute eczema on the legs. Scaly erythema with scales, papules and vesicles are scattered, partly forming oozy crusts and pustules.

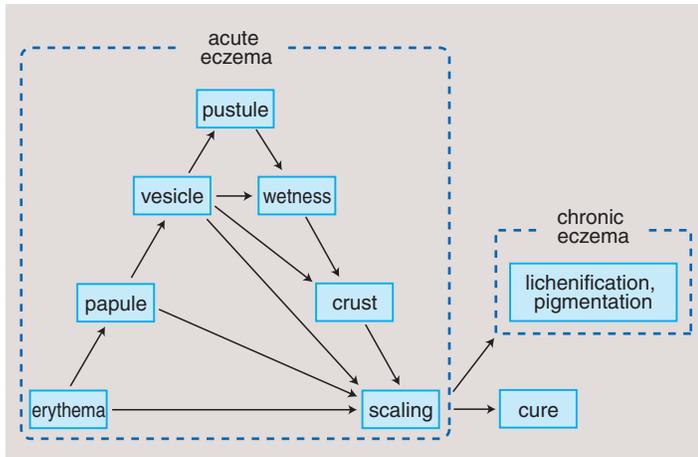


Fig. 7.2 Course and symptoms of eczema.

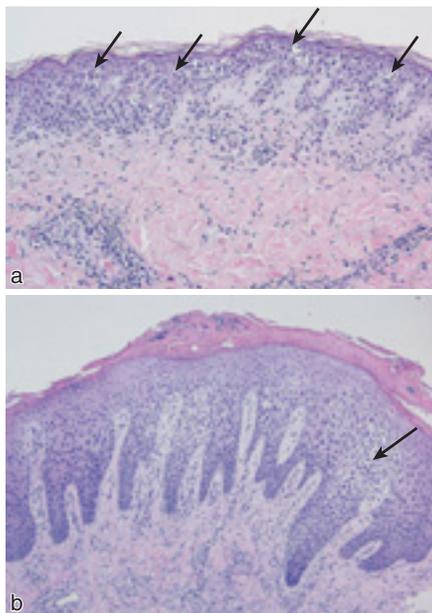


Fig. 7.3 Histopathology of eczema. a: Acute eczema. Spongiosis (arrows) has formed from intercellular edema. Lymphocytic infiltration is also seen. b: Chronic eczema. Hyperkeratosis, regular acanthosis and elongation of epidermal rete ridge are noted. Spongiosis is not severe (arrows).

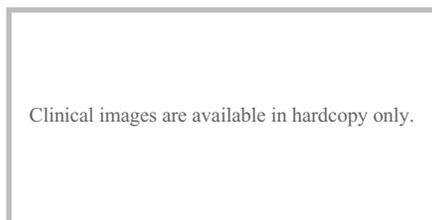


Fig. 7.4 Acute eczema. Itchy edematous erythema and infiltrated small papules are seen. Small vesicles also appear.

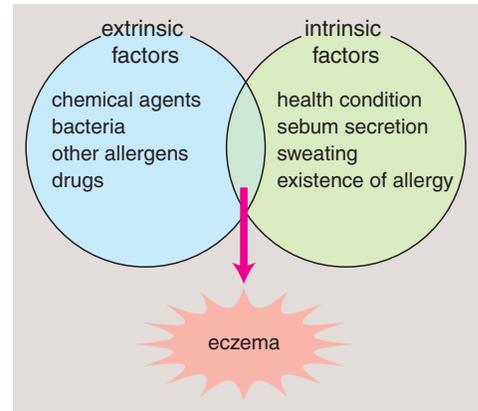


Fig. 7.5 Various factors causing eczema. Extrinsic and intrinsic factors interact, resulting in eczema formation.

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

Table 7.1 Eczema classified by pathogenesis.

Contact dermatitis
Housewives hand eczema
Keratoderma tylodes palmaris progressiva
Diaper dermatitis
Atopic dermatitis
Seborrheic dermatitis
Nummular eczema
Lichen simplex chronicus, lichen Vidal
Autosensitization dermatitis
Stasis dermatitis
Other
Pompholyx, dyshidrotic eczema
Pityriasis simplex faciei
Perioral dermatitis

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 ★ ★

Outline

- 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.

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Fig. 7.6 Chronic eczema.

Hyperkeratosis is severe, as in tylosis. Erythema and fissures are seen.

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Fig. 7.7-1 Contact dermatitis.

a: "Ginkgo nut dermatitis." This patient touched his face without washing his hands after gathering ginkgo nuts.