A cyst is a closed tumorous lesion covered by a membranous lining, which does not always elevate above the skin. The covering consists of epithelial tissue or connective tissue containing keratinous substances (observed in epidermal cysts, for example) or fluid components (e.g., in eccrine and apocrine hydrocysts) (Figs. 4.12 and 4.14).

**9. Cyst**

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Urticaria is localized edema that disappears in a short period of time (usually within several hours, and always within 24 hours). It usually appears light pink with a slightly flat elevation. It is accompanied by itching and heals without scarring in most cases (Figs. 4.12 and 4.15). “Wheal” and “urticaria” are often use synonymously, although the former is the name of an eruption and the latter is a condition presenting these eruptions.

**10. Wheal, Urticaria**

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**B. Secondary skin lesions**

A secondary lesion is an eruption that occurs secondarily after a primary or other skin lesion.

**1. Atrophy**

Skin atrophy is when skin becomes thin or has a smooth or finely wrinkled surface (Figs. 4.16 and 4.17). The secretory function is reduced, and the skin surface dries. Aging leads to skin atrophy, including subcutaneous lipoatrophy, striae atrophicae caused by steroids (Chapter 18), kraurosis vulvae and macular atrophy.

**Fig. 4.14 Cyst.**
Epidermal cyst.

**Fig. 4.15 Wheal.**
Acute urticaria.

**Fig. 4.16 Atrophy.**
Widespread striae atrophicae.

**Fig. 4.17 Atrophy and hypertrophic scar.**
2. Scaling

Scaling is the abnormal thickening of the skin surface and formation of scaly white lamellae from the accumulation of horny cell layers. Detachment of scales from the skin surface is called desquamation. Since the normal horny cell layers exfoliate individually, individual desquamation lamellae cannot be seen by the naked eye. Scales are observed when multiple horny cell layers pathologically exfoliate in diseases such as psoriasis (Fig. 4.18).

Fine scaling is called pityriasis, slightly larger scaling is simply called scaling, and even larger scaling is called large lamellar scaling. Thick silver-gray scales, called micaceous scales, visible in psoriasis and fish-scale-like large scaling, are called ichthyosiform scales.

There are two mechanisms of scale formation: retention hyperkeratosis and proliferation hyperkeratosis. In retention hyperkeratosis, such as in ichthyosis, horny cell layers are too cohesive to exfoliate normally; they exfoliate only after accumulating abnormally. In proliferation hyperkeratosis, such as in psoriasis, the epidermis exfoliates abnormally from over-proliferation. Blisters and pustules may become scales secondarily.

3. Crust

Crust is solidified keratin and exudate that forms on an erosion or on ulcerous skin (Fig. 4.19). A crust of clotted blood is called a bloody crust (commonly called a scab).

4. Callus, Tylosis

A callus (tylosis) is localized, proliferated, and thickened epidermal horny cell layers. It is commonly called a corn (Chapter 15).

5. Clavus

In clavus, the horny cell layer becomes wedged into the skin by prolonged physical stimulation, such as pressure produced by wearing shoes for long periods of time. It is commonly called a corn (Chapter 15).

6. Scar, Keloid

A scar is the reactive proliferation of dermal collagen after the skin is injured (Fig. 4.17). Healing usually leaves a flat scar. Sometimes the scar is hypertrophic, or thickened, but confined to the margin of the wound. A keloid, by contrast, starts some time after the injury and extends beyond the wound site (Fig. 4.20). This tendency to spread into surrounding areas that weren’t injured distinguishes keloids from hypertrophic scars.
7. Excoriation

Excoriation is partial damage to the epidermis by injury or rubbing (Fig. 4.24). The symptoms vary by the depth of excoriation. When it occurs within the horny cell layer, it heals by scaling. When it occurs in a deeper site, blood or other fluids may be exuded. In both cases, healing is without scarring.

8. Erosion

Erosion is epidermal excoriation down to the basal cell layer. It often develops after breakage of a blister or pustule (Figs. 4.21 and 4.24). It appears red and is infiltrated with serous fluid in most cases. It frequently occurs in the lips and oral mucosa, from their lack of keratinocytes. Healing is without scarring. It frequently occurs in diseases that cause intraepidermal blistering, such as impetigo contagiosa, pemphigus, epidermolysis bullosa and herpes simplex, and in diseases that cause subepidermal blistering, such as pemphigoid, burns and spontaneous intensely itchy eruptions (e.g., Duhring dermatitis herpetiformis, atopic dermatitis).

9. Ulcer

An ulcer is the complete deficiency of tissue at sites deeper than erosion, reaching from the dermis to subcutaneous tissues (Figs. 4.22 and 4.24). In healing, an ulcer is repaired by granular tissue and scarring is left. The bottom of an ulcer often has bleeding, serous exudation, and a crust that includes part of the previous lesion. Ulceration occurs secondarily in many cases after blood circulation disorder (e.g., stasis dermatitis, collagen disease, vasculitis, blocked arteries, diabetes), infection and malignant tumor.

10. Fissure

A fissure is a thin linear cleavage running through the deep epidermal layer and the dermis. It is commonly called a crack (Figs. 4.23 and 4.24). It may accompany another lesion, including chronic eczema in the hands and feet, psoriasis and angular
cheilitis. It tends to occur in the hands and feet, joints, intertrigo, and mucocutaneous junctions.

C. Enanthema

An enanthema is a lesion of the mucous membranes, such as the oral mucosa, conjunctiva and external genitalia. Specific types are listed below.

1. Aphtha

An aphtha is a painful, sharply circumscribed, round erosion with a diameter of 1 cm or less in the mucous membrane (Fig. 4.25). It is accompanied by peripheral inflammatory flush. Healing is without scarring. Deep ulcers are not included in aphtha. Major diseases that cause aphtha are viral infections (e.g., herpes simplex, varicella, hand-foot-and-mouth disease) and Behçet’s disease.

2. Leukoplakia

Leukoplakia is abnormal keratinization of the mucosal epithelium. It appears white (Fig. 4.26) and may be benign or precancerous (Chapter 22).

D. Lesions with elevation of skin

1. Lichen

Lichens are multiple aggregated papules of 5 mm or less in diameter that persist longer than one month without progressing to another type of lesion (Fig. 4.27). Lichens are classified into lichen planus, lichen nitidus, lichen pilaris, lichen spinulosus, lichen amyloidosis, lichen sclerosus et atrophicus, lichen myxedematosus, lichen scrofulosorum and lichen striatus. Atypical lichen-like skin lesions are called lichenoid eruptions.

2. Lichenification

Lichenification is the thickening and hardening of skin that results from chronic disease. The sulci cutis and cristae cutis are clearly observed (Fig. 4.28). Lichenification is found in chronic eczema, lichen simplex chronicus and atopic dermatitis.