Chapter 21  Benign Skin Tumors

Examination of a skin tumor is for determination not only of malignancy or benignancy but also of the skin component from which the tumor derives. A tumor may originate from epidermal keratinocytes, from cells of appendages such as those in sweat glands, or from neural crest cells or mesenchymal cells including dermal fibroblasts. The epidemiology, pathology and course of tumors vary depending on the origin of the cells. This chapter classifies benign skin tumors into the subtypes below.

<table>
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<th>A: Epidermal tumor</th>
<th>B: Follicular tumor</th>
<th>C: Sebaceous tumor</th>
<th>D: Sweat gland tumor</th>
<th>E: Cyst</th>
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A. Epidermal tumors

Epithelial tumors originate mainly from epidermal keratinocytes.

1. Seborrheic keratosis (SK)

Synonyms: Senile warts, Senile verruca

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<th>Outline</th>
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<td>● A benign verrucous tumor occurs, most frequently on the face, head or trunk of men and women middle aged and older. It derives from keratinocytes in the epidermis or infundibular hair follicle.</td>
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<td>● Elevated, sharply demarcated, grayish-brown to blackish-brown nodules of 1 cm to 2 cm in diameter occur.</td>
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<td>● Cryotherapy, laser therapy and excision are the main treatments.</td>
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<td>● When multiple, itchy, SK rapidly occurs on the whole body within 6 months after the onset of SK, it is called Leser-Trélat syndrome. It may be accompanied by internal malignancy.</td>
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<td>Seborrheic keratosis (SK) appears in people in their 20s and is seen in nearly everyone in their 80s or older. Flat-topped papules of 1 cm to 2 cm in diameter, varying in color from brown to blackish brown occur on the face, head and trunk (Figs. 21.1-1 and 21.1-2). The palms and soles are unaffected. The surface of the papules is keratotic and often papillary or granular, resembling clay adhered to the skin. Itching and pain are not usually present. As the synonym “senile warts” suggests, SK occurs as a skin aging change. Senile freckles often elevate to form SK.</td>
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<td>There is upward intraepidermal proliferation of basal cells and</td>
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Clinical images are available in hardcopy only.

Fig. 21.1-1 Seborrheic keratosis (SK).
Multiple, flatly elevated, brown or blackish-brown keratotic papules of 1 cm to 2 cm in diameter on the back of an elderly man.
suprabasal cells (exophytic lesion). The ratio of proliferative cells to normal cells varies. Dysplasia is not present, but melanin pigmentation occurs in each proliferative cell to a varying degree (Fig. 21.2). Pseudohorn cyst formation presents as milia-like cyst by dermoscopy.

**Differential diagnosis**

The disease should be differentiated from actinic keratosis, Bowen’s disease (papular type), basal cell carcinoma, squamous cell carcinoma, keratoacanthoma, follicular tumor, syringoma, flat warts, verruca vulgaris and lentigo simplex.

**Treatment**

Treatment is not necessary except when there are cosmetic concerns or suspected malignancy. The lesions do not disappear spontaneously but increase in number with age. If necessary, cryotherapy, laser therapy or surgical removal is conducted.

### 2. Clear cell acanthoma

Clear cell acanthoma is usually a solitary, elastic, firm, dome-shaped or flatly elevated small tumor whose diameter is up to 2 cm. It may be pedunculated, fungiform or papillomatous. The surface is smooth, granular or velvety. The color is usually rose pink, but it may be brown to blackish brown in some cases. The pathogenesis is unknown. There is a question of whether clear cell acanthoma is a genuine tumorous lesion or a reactive lesion that accompanies inflammation. Histologically, epidermal cells containing clear cytoplasm (clear cells) proliferate.

### 3. Warty dyskeratoma

In warty dyskeratoma there are verrucous or flatly elevated tumors of 1 cm to 2 cm in diameter that tend to keratinize at the center. The condition is largely asymptomatic, although tenderness and pain are present in some cases. Basaloid cells proliferate pathologically toward the dermis directly above which cleavage appears. Warty dyskeratoma clinically resembles Darier’s disease but is a different disease.

**Leser-Trélat sign**

Sudden development of numerous seborrheic keratosis lesions, usually, with pruritus, is called Leser-Trélat sign. This sign implies the presence of internal malignancy. Therefore, systemic investigation must be made for such malignancies when dermatologists see this phenomenon.
4. Porokeratosis

Outline

- Scattered, round, brown keratotic lesions with elevated rims occur on the extremities, trunk and face.
- The disorder is asymptomatic. There is transformation to squamous cell carcinoma in rare cases.
- Characteristic pathological features called cornoid lamella are observed.
- Excision and cryotherapy are the main treatments.

Clinical features

An elevated keratotic eruption, round or oval in shape, occurs on the extensor surfaces of extremities and on the trunk and face (Fig. 21.3). Atrophy occurs at the center of the lesion, which becomes slightly concave. Porokeratosis begins as a blackish-brown papule, gradually enlarging centrifugally. It is asymptomatic, it progresses slowly, and it does not subside. It may aggravate and progress to Bowen’s disease or squamous cell carcinoma. Despite the disease name, the eruptions are not associated with the sweat pores. Porokeratosis is divided by morphology into the six subtypes below. Pathologically, the most frequently seen type is disseminated superficial porokeratosis, which occurs on sun-exposed areas of the body.

Porokeratosis of Mibelli: This is the classic porokeratosis, in which small multiple eruptions up to 2 cm in diameter occur symmetrically on the extremities and face.

Linear porokeratosis: The onset is between birth and early infancy. The eruptions are arranged in band-like or linear pattern.

Localized porokeratosis: A large, solitary, localized eruption occurs.

Disseminated superficial porokeratosis: Multiple, disseminated, small eruptions coalesce.

Disseminated superficial actinic porokeratosis: Multiple eruptions occur on sun-exposed areas of the body, particularly the extensor surfaces of extremities in adults.

Porokeratosis palmaris et plantaris disseminata: Small keratotic papules occur multiply on the palms and soles.

Pathogenesis

Porokeratosis is induced by epidermal clones that cause localized dyskeratosis. It may be triggered by sunlight, external injury or aging. Some cases are autosomal dominant.

Pathology

Acanthosis and hyperkeratosis are found at the periphery of porokeratosis. The rim of the lesion is elevated, and there is cornoid lamella, a column of incompletely keratinized cells that stain more brightly than the peripheral horny cell layer. Underneath the cornoid lamella, the granular cell layer is absent (Fig. 21.3 Porokeratosis.

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Fig. 21.3 Porokeratosis.
a, b: Porokeratosis of Mibelli. The eruption is keratotic, with an elevated rim and a diameter of about 2 cm. c: Disseminated superficial actinic porokeratosis. d, e: Disseminated superficial porokeratosis. The eruptions are 5 mm in diameter and slightly elevated at the edge.
Thinning of the epidermis accompanied by parakeratosis is present in the concave center of the lesion.

**Treatment**

Excision, electrical coagulation, cryotherapy, dermabrasion, and administration of retinoids are the main treatments. Porokeratosis is chronic and intractable.

Small, smooth-surfaced, dome-shaped tumors or papules 5 mm to 10 mm in diameter occur, most commonly in the nasal region and its peripheries (Fig. 21.5). Trichofolliculoma is characterized by small keratotic cavities with several immature woolly hairs at the center. The pathogenesis is unknown. Trichofolliculoma is considered a benign tumor in which the entire follicle – including the inner root sheath, outer root sheath, and dermal hair papilla – differentiates.

A firm, solitary, elastic nodule 1.5 cm or less in diameter appears, most frequently on the face. It is thought to be a tumor whose morphological differentiation falls between that of trichofolliculoma and that of trichoepithelioma. The border between the normal dermis and trichoadenoma is clear. There are multiple keratin-containing cyst(s) and solid masses of cells in the dermis.

This is a benign tumor derived from hair germs that differentiate into various hair components, such as hair follicles, outer root sheaths, and hairs. Small, firm but elastic tumors of 2 mm to 5 mm in diameter and normal skin color occur around the nose, eyebrows, upper lip, and chin. It is nonhereditary. Solitary trichoepithelioma histopathologically consists of a small keratin-containing cyst(s) and basaloid cells, and there is proliferation of dermal stroma. It may be difficult to distinguish from basal cell carcinoma; however, in most cases of solitary trichoepithelioma,