

whose skin is naturally dark, in Asians in particular. Multiple, sharply circumscribed, incomplete hypopigmented patches of 1 cm to 2 cm in diameter occur, often coalescing to become reticular. It is asymptomatic. The reticular leukoderma resembles syphilitic leukoderma; nevertheless, the two can be differentiated: Syphilitic leukoderma tends to occur on exposed sites, and the standard serologic test for syphilis is positive.

## B. Disorders of hyperpigmentation

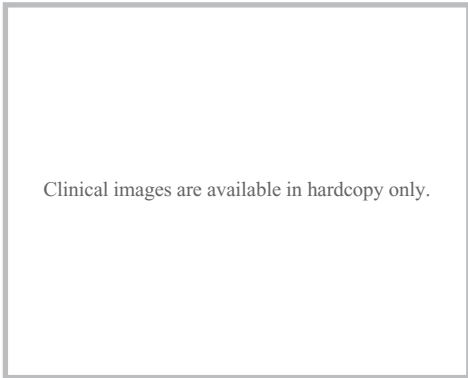
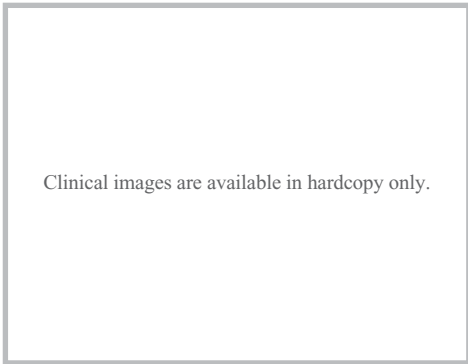


Fig. 16.10 Ephelides.

### 1. Ephelides ★

#### Clinical features

Multiple round smooth-surfaced brown patches about 3 mm in diameter occur on the sun-exposed areas of the face, neck and forearms (**Fig. 16.10**). Ephelides darkens with sun exposure (especially exposure to UVR) in summer and tends to fade in winter. It worsens with age and is most remarkable at puberty; it lightens thereafter.

#### Pathogenesis, Pathology

Ephelides tends to run in families; it is thought to be autosomal dominant. However, it can be autosomal recessive in severe cases. Melanocytes are activated by hereditary factors, and melanosomes markedly increase in the basal keratinocytes. Melanocytes in patients with ephelides have well-developed dendritic spines and enhanced functions; however, the number of melanocytes does not change.

#### Diagnosis, Treatment

Differentiation from lentigo, Peutz-Jeghers syndrome, xeroderma pigmentosum, and progeria is necessary. Sunscreen is useful for blocking UVR.

### 2. Melasma ★

Synonym: Chloasma

#### Clinical features

Melasma tends to occur in women in their 30s or older. It is rare in men. Sharply demarcated light brown patches occur on the face (forehead, cheeks, and around the mouth, in particular), usually symmetrically. Melasma patches are irregular in size and shape. The disorder is aggravated by UVR in summer, and it subsides in winter (**Fig. 16.11**). Pregnancy may trigger the onset (chloasma gravidarum).

**Pathogenesis**

Abnormalities in sex hormones and adrenocortical hormones that activate melanocytes are known to cause melasma.

**Diagnosis, Differential diagnosis**

Riehl's melanosis should be distinguished from melasma. Unlike Riehl's melanosis, melasma is asymptomatic and is not preceded by dermatitis-like symptoms. Histologically, there is an increase in the content of melanin throughout the epidermis and an increase in the number of epidermal melanocytes. Differentiation from nevus of Ota is also important; the periphery of the eyes is affected by nevus of Ota but not by melasma.

**Treatment**

The causal factors, such as artificial sex hormones, are discontinued. Chloasma gravidarum occurs during pregnancy and subsides several months after delivery. Protection from UVR is useful. Today topical hydroquinone and tretinoin are used for bleaching treatment.

**3. Riehl's melanosis**

A diffuse, vaguely circumscribed grayish-purplish-brown network of pigment deposition appears, most commonly on the face of middle-aged women. Riehl's melanosis may be accompanied by follicular keratotic papules. In most cases, inflammatory symptoms such as flush and itching precede pigmentation.

The cause is recurrent contact dermatitis on the face. The antigens in most cases are cosmetic products containing tar pigment. Most of such products are no longer produced, because of restrictions on components used in cosmetics. Histopathologically, macrophages that have phagocytosed melanosomes are observed in the dermal upper layer.

**4. Friction melanosis** ★

Synonym: Towel melanosis

**Definition, Clinical features**

Prolonged and vigorous use of nylon towels or brushes may stimulate the skin mechanically, resulting in pigmentation. Friction melanosis occurs frequently in persons in their 20s and 30s. A network pattern or diffuse brown pigmentation is seen in the skin above the clavicular region, neck, ribs and vertebral region (**Fig. 16.12**). Subjective symptoms such as itching are not present.

**Pathogenesis, Pathology**

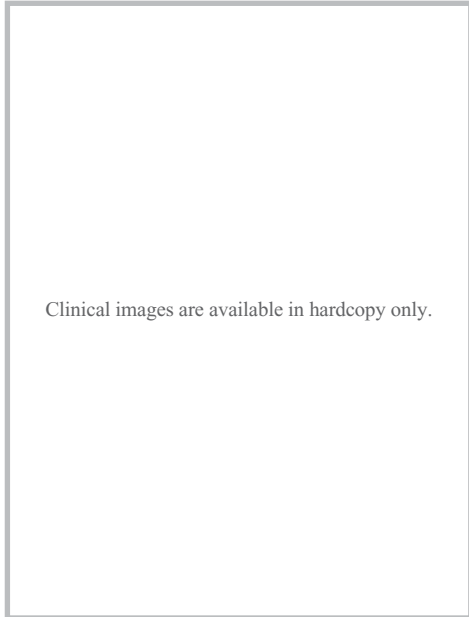
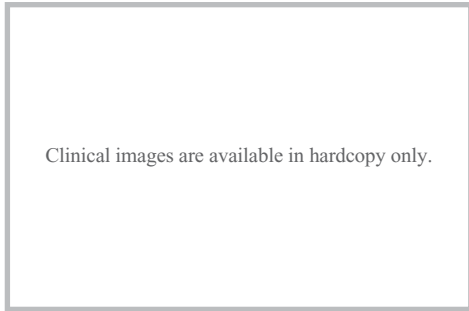
Melanosomes sink into the dermis from mechanical stimulation and inflammation. As a result of histological pigmentary incontinence, increase of melanophages in the upper dermis leads

Clinical images are available in hardcopy only.

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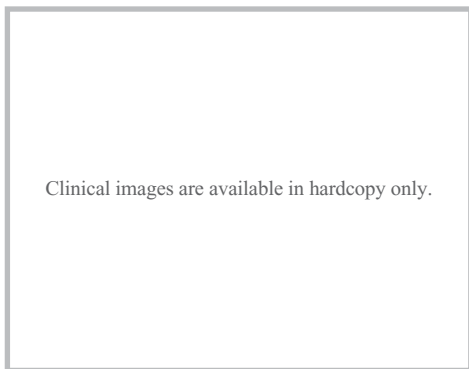
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**Fig. 16.11 Melasma, Chloasma.**  
Brown spots on the cheeks.



**Fig. 16.12 Friction melanosis.**

Diffuse, reticular, brown pigmentation occurs on the trunk, particularly on the back. The eruptions are blackish papules of several millimeters in diameter. Histopathologically, amyloid deposition is observed.



**Fig. 16.13 Dyschromatosis symmetrica hereditaria.**

Multiple brownish macules of 2 mm to 10 mm in diameter occur on the dorsum of hands. They coalesce to present a reticular pattern. Depigmentation is also seen.

to friction melanosis. Histopathologically, multiple migrant melanosomes and melanophages are seen. Amyloid deposition is found in some cases.

#### Treatment

The skin color gradually returns to normal by discontinuation of the mechanical irritation, such as discontinuation of vigorous rubbing with nylon towels.

### 5. Dyschromatosis symmetrica hereditaria ★

#### Definition, Pathogenesis, Clinical features

Multiple brown patches and hypopigmented patches of 3 mm to 8 mm in diameter occur on the extremities, including the dorsa of hands and feet, coalescing into reticular forms (**Fig. 16.13**). Generally, the more distally the pigmentation occurs, the severer are the symptoms. The patches are flat and smooth. The onset is age 6 or younger in most cases. It is autosomal dominant, which runs in families, and is caused by mutation in the RNA-specific adenosine deaminase gene (DSRAD). It progresses with age, until adulthood. It most commonly occurs in Asians.

#### Diagnosis

Dyschromatosis symmetrica hereditaria can be diagnosed by the characteristic cutaneous features and familial incidence. It should be differentiated from acropigmentatio reticularis (Kitamura), a similar autosomal dominant disease with reticular pigmentation in the distal extremities. Acropigmentatio reticularis is distinguished by the fact that the pigmented patches are concave and there are no hypopigmented patches.

#### Treatment

Special concealing cosmetics are useful. Dermabrasion may be conducted for pigmented patches.

### 6. Senile lentigo ★

Synonym: Solar lentigo

#### Definition, Clinical features

Senile lentigo appears in almost all men and women middle-aged and older. Round brown patches of various sizes occur on sun-exposed areas of the face, dorsa of hands, and extensor surfaces of the arms. The patches are relatively clearly circumscribed. Mild scaling may be present (**Fig. 16.14**).

#### Treatment

Alexandrite lasers and cryotherapies are conducted.

**7. Addison’s disease** ★★

Secretion of ACTH and MSH from the anterior lobe of the hypophysis is enhanced by reduced secretion of adrenocortical hormones, and this causes pigmentation by stimulating melanocytes. Pigmentation is seen on the entire body. The face, genitalia, axillary fossae and umbilical region are most severely affected. The pigmentation is also found on areas that normally contain less pigmentation than skin, such as the tongue, gingiva and oral mucosa; this is helpful for diagnosis.

**8. Pigmentatio petaloides actinica**

Multiple, sharply circumscribed, brown, petal-shaped or spiny patches of several millimeters to 1 cm in diameter occur on the shoulders and upper back (Fig. 16.15). Multiple patches often occur in persons with light complexion, 1 to 3 months after intense sunburn such as from a beach outing.

**9. Erythema dyschromicum perstans** ★

Synonym: Ashy dermatosis

Multiple, small erythematous lesions occur on the trunk and extremities of non-Caucasians, and these soon turn into grayish-white to grayish-blue patches of 1 cm to 3 cm in diameter. Erythematous elevation is seen at the periphery in many cases (Fig. 16.16). Itching may be present; however, it is asymptomatic in most cases and develops slowly. Drug eruption or lichen planus resembling erythema dyschromicum perstans may appear.

Clinical images are available in hardcopy only.

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**Fig. 16.14 Senile lentigo.**

Sharply demarcated brown patches appear. They may partially elevate and progress to seborrheic keratosis in some cases.

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**Fig. 16.15 Pigmentatio petaloides actinica**

This skin lesion occurred after PUVA therapy for vitiligo vulgaris (center of photo).

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**Fig. 16.16 Erythema dyschromicum perstans, ashy dermatosis.**

Grayish-blue patches and erythematous eruptions are seen around the patches.