with *actinically damaged skin* and *acne rosacea,* and they are found on the legs of patients with *venous hypertension* and *generalized essential telangiectasia*. Patients with an unusual form of *mastocytosis* (telangiectasia macularis eruptiva perstans) and the *carcinoid syndrome* (see "Acne," above) also have linear telangiectasias. Lastly, linear telangiectasias are found in areas of cutaneous inflammation. For example, lesions of discoid lupus frequently have telangiectasias within them.

Poikiloderma is a term used to describe a patch of skin with: (1) reticulated hypo- and hyperpigmentation, (2) wrinkling secondary to epidermal atrophy, and (3) telangiectasias. Poikiloderma does not imply a single disease entity—although it is becoming less common, it is seen in skin damaged by *ionizing radiation* as well as in patients with autoimmune connective tissue diseases, primarily *dermatomyositis* (DM), and rare genodermatoses (e.g., Kindler syndrome).

In *systemic sclerosis (scleroderma)* the dilated blood vessels have a unique configuration and are known as *mat telangiectasias*. The lesions are broad macules that usually measure 2–7 mm in diameter but occasionally are larger. Mats have a polygonal or oval shape, and their erythematous color may appear uniform, but, upon closer inspection, the erythema is the result of delicate telangiectasias. The most common locations for mat telangiectasias are the face, oral mucosa, and hands—peripheral sites that are prone to intermittent ischemia. The limited form of systemic sclerosis, often referred to as the CREST (*c*alcinosis cutis, *R*aynaud's phenomenon, *e*sophageal dysmotility, *s*clerodactyly, and *t*elangiectasia) variant **(Chap. 382)**, is associated with a chronic course and anticentromere antibodies. Mat telangiectasias are an important clue to the diagnosis of this variant as well as the diffuse form of systemic sclerosis because they may be the only cutaneous finding.

Periungual telangiectasias are pathognomonic signs of the three major autoimmune connective tissue diseases: *lupus erythematosus*, *systemic sclerosis*, and *DM*. They are easily visualized by the naked eye and occur in at least two-thirds of these patients. In both DM and lupus, there is associated nailfold erythema, and in DM, the erythema is often accompanied by "ragged" cuticles and fingertip tenderness. Under 10× magnification, the blood vessels in the nailfolds of lupus patients are tortuous and resemble "glomeruli," whereas in systemic sclerosis and DM, there is a loss of capillary loops and those that remain are markedly dilated.

In *hereditary hemorrhagic telangiectasia* (Osler-Rendu-Weber disease), the lesions usually appear during adolescence (mucosal) and adulthood (cutaneous) and are most commonly seen on the mucous membranes (nasal, orolabial), face, and distal extremities, including under the nails. They represent arteriovenous (AV) malformations of the dermal microvasculature, are dark red in color, and are usually slightly elevated. When the skin is stretched over an individual lesion, an eccentric punctum with radiating legs is seen. Although the degree of systemic involvement varies in this autosomal dominant disease (due primarily to mutations in either the endoglin or activin receptor–like kinase gene), the major symptoms are recurrent epistaxis and gastrointestinal bleeding. The fact that these mucosal telangiectasias are actually AV communications helps to explain their tendency to bleed.

HYPOPIGMENTATION

(Table 72-9) Disorders of hypopigmentation are often classified as either diffuse or localized. The classic example of *diffuse hypopigmentation* is *oculocutaneous albinism* (OCA). The most common forms are due to mutations in the tyrosinase gene (type I) or the *P* gene (type II); patients with type IA OCA have a total lack of enzyme activity. At birth, different forms of OCA can appear similar—white hair, gray-blue eyes, and pink-white skin. However, the patients with no tyrosinase activity maintain this phenotype, whereas those with decreased activity will acquire some pigmentation of the eyes, hair, and skin as they age. The degree of pigment formation is also a function of racial background, and the pigmentary dilution is more readily apparent when patients are compared to their first-degree relatives. The ocular findings in OCA correlate with the degree of hypopigmentation and include decreased visual acuity, nystagmus, photophobia, strabismus, and a lack of normal binocular vision.

TABLE 72-9 CAUSES OF HYPOPIGMENTATION

I. Primary cutaneous disorders
  A. Diffuse
    1. Generalized vitiligo[a]
  B. Localized
    1. Idiopathic guttate hypomelanosis
    2. Postinflammatory
    3. Tinea (pityriasis) versicolor
    4. Vitiligo[a]
    5. Chemical- or drug-induced leukoderma
    6. Nevus depigmentosus
    7. Piebaldism[a]
II. Systemic diseases
  A. Diffuse
    1. Oculocutaneous albinism[b]
    2. Hermansky-Pudlak syndrome[b,c]
    3. Chédiak-Higashi syndrome[b,d]
    4. Phenylketonuria
  B. Localized
    1. Systemic sclerosis (scleroderma)
    2. Melanoma-associated leukoderma, spontaneous or immunotherapy-induced
    3. Vogt-Koyanagi-Harada syndrome
    4. Onchocerciasis
    5. Sarcoidosis
    6. Cutaneous T cell lymphoma (especially mycosis fungoides)
    7. Tuberculoid and indeterminate leprosy
    8. Linear nevoid hypopigmentation (hypomelanosis of Ito)[e]
    9. Incontinentia pigmenti (stage IV)
    10. Tuberous sclerosis
    11. Waardenburg syndrome and Shah-Waardenburg syndrome

[a]Absence of melanocytes in areas of leukoderma. [b]Normal number of melanocytes. [c]Platelet storage defect and restrictive lung disease secondary to deposits of ceroid-like material or immunodeficiency; due to mutations in β subunit of adaptor protein 3 as well as subunits of *b*iogenesis of *l*ysosome-related *o*rganelles *c*omplex (BLOC)-1, -2, and -3. [d]Giant lysosomal granules and recurrent infections. [e]Minority of patients in a nonreferral setting have systemic abnormalities (musculoskeletal, central nervous system, ocular).

The differential diagnosis of *localized hypomelanosis* includes the following primary cutaneous disorders: *idiopathic guttate hypomelanosis*, *postinflammatory hypopigmentation*, *tinea (pityriasis) versicolor*, *vitiligo*, *chemical- or drug-induced leukoderma*, *nevus depigmentosus* (see below), and *piebaldism* **(Table 72-10)**. In this group of diseases, the areas of involvement are macules or patches with a decrease or absence of pigmentation. Patients with vitiligo also have an increased incidence of several autoimmune disorders, including Hashimoto's thyroiditis, Graves' disease, pernicious anemia, Addison's disease, uveitis, alopecia areata, chronic mucocutaneous candidiasis, and the autoimmune polyendocrine syndromes (types I and II). Diseases of the thyroid gland are the most frequently associated disorders, occurring in up to 30% of patients with vitiligo. Circulating autoantibodies are often found, and the most common ones are antithyroglobulin, antimicrosomal, and antithyroid-stimulating hormone receptor antibodies.

There are four systemic diseases that should be considered in a patient with skin findings suggestive of vitiligo—*Vogt-Koyanagi-Harada syndrome*, *systemic sclerosis*, *onchocerciasis*, and *melanoma-associated leukoderma*. A history of aseptic meningitis, nontraumatic uveitis, tinnitus, hearing loss, and/or dysacousia points to the diagnosis of the Vogt-Koyanagi-Harada syndrome. In these patients, the face and scalp are the most common locations of pigment loss. The