TABLE 72-15 PAPULONODULAR SKIN LESIONS ACCORDING TO COLOR GROUPS

I. White
- A. Calcinosis cutis
- B. Osteoma cutis (also skin-colored or blue)

II. Skin-colored
- A. Rheumatoid nodules
- B. Neurofibromas (von Recklinghausen's disease)
- C. Angiofibromas (tuberous sclerosis, MEN syndrome, type 1)
- D. Neuromas (MEN syndrome, type 2b)
- E. Adnexal tumors
  1. Basal cell carcinomas (nevoid basal cell carcinoma syndrome)
  2. Tricholemmomas (Cowden disease)
- F. Osteomas (arise in skull and jaw in Gardner syndrome)
- G. Primary cutaneous disorders
  1. Epidermal inclusion cysts[a]
  2. Lipomas

III. Pink/translucent[b]
- A. Amyloidosis, primary systemic
- B. Papular mucinosis/scleromyxedema
- C. Multicentric reticulohistiocytosis

IV. Yellow
- A. Xanthomas
- B. Tophi
- C. Necrobiosis lipoidica
- D. Pseudoxanthoma elasticum
- E. Sebaceous adenomas (Muir-Torre syndrome)

V. Red[b]
- A. Papules
  1. Angiokeratomas (Fabry disease)
  2. Bacillary angiomatosis (primarily in AIDS)
- B. Papules/plaques
  1. Cutaneous lupus
  2. Lymphoma cutis
  3. Leukemia cutis
  4. Sweet syndrome
- C. Nodules
  1. Panniculitis
  2. Medium-sized vessel vasculitis (e.g., cutaneous polyarteritis nodosa)
- D. Primary cutaneous disorders
  1. Arthropod bites
  2. Cherry hemangiomas
  3. Infections, e.g., streptococcal cellulitis, sporotrichosis
  4. Polymorphous light eruption
  5. Lymphocytoma cutis (pseudolymphoma)

VI. Red-brown[b]
- A. Sarcoidosis
- B. Urticaria pigmentosa
- C. Erythema elevatum diutinum (chronic leukocytoclastic vasculitis)
- D. Lupus vulgaris

VII. Blue[b]
- A. Venous malformations (e.g., blue rubber bleb syndrome)
- B. Primary cutaneous disorders
  1. Venous lake
  2. Blue nevus

VIII. Violaceous
- A. Lupus pernio (sarcoidosis)
- B. Lymphoma cutis
- C. Cutaneous lupus

IX. Purple
- A. Kaposi's sarcoma
- B. Angiosarcoma
- C. Palpable purpura (see Table 72-16)

X. Brown-black[c]

XI. Any color
- A. Metastases

[a]If multiple with childhood onset, consider Gardner syndrome. [b]May have darker hue in more darkly pigmented individuals. [c]See also "Hyperpigmentation."

Abbreviation: MEN, multiple endocrine neoplasia.

of individuals with a history of acne vulgaris, whereas plate-like lesions occur in rare genetic syndromes **(Chap. 82)**.

SKIN-COLORED LESIONS

There are several types of skin-colored lesions, including epidermoid inclusion cysts, lipomas, rheumatoid nodules, neurofibromas, angiofibromas, neuromas, and adnexal tumors such as tricholemmomas. Both *epidermoid inclusion cysts* and *lipomas* are very common mobile subcutaneous nodules—the former are rubbery and drain cheese-like material (sebum and keratin) if incised. Lipomas are firm and somewhat lobulated on palpation. When extensive facial epidermoid inclusion cysts develop during childhood or there is a family history of such lesions, the patient should be examined for other signs of Gardner syndrome, including osteomas and desmoid tumors. *Rheumatoid nodules* are firm 0.5- to 4-cm nodules that favor the extensor aspect of joints, especially the elbows. They are seen in ~20% of patients with rheumatoid arthritis and 6% of patients with Still's disease. Biopsies of the nodules show palisading granulomas. Similar lesions that are smaller and shorter-lived are seen in rheumatic fever.

Neurofibromas (benign Schwann cell tumors) are soft papules or nodules that exhibit the "button-hole" sign; that is, they invaginate into the skin with pressure in a manner similar to a hernia. Single lesions are seen in normal individuals, but multiple neurofibromas, usually in combination with six or more CALMs measuring >1.5 cm (see "Hyperpigmentation," above), axillary freckling, and multiple Lisch nodules, are seen in von Recklinghausen's disease (NF type I) **(Chap. 118)**. In some patients, the neurofibromas are localized and unilateral due to somatic mosaicism.

Angiofibromas are firm pink to skin-colored papules that measure from 3 mm to a few centimeters in diameter. When multiple lesions are located on the central cheeks (adenoma sebaceum), the patient has tuberous sclerosis or multiple endocrine neoplasia (MEN) syndrome, type 1. The former is an autosomal disorder due to mutations in two different genes, and the associated findings are discussed in the section on ash leaf spots as well as in **Chap. 118**.

Neuromas (benign proliferations of nerve fibers) are also firm, skin-colored papules. They are more commonly found at sites of amputation and as rudimentary supernumerary digits. However, when there are multiple neuromas on the eyelids, lips, distal tongue, and/or oral mucosa, the patient should be investigated for other signs of the MEN syndrome, type 2b. Associated findings include marfanoid habitus, protuberant lips, intestinal ganglioneuromas, and medullary thyroid carcinoma (>75% of patients; **Chap. 408**).

Adnexal tumors are derived from pluripotent cells of the epidermis that can differentiate toward hair, sebaceous, apocrine, or eccrine glands or remain undifferentiated. *Basal cell carcinomas* (BCCs) are examples of adnexal tumors that have little or no evidence of differentiation. Clinically, they are translucent papules with rolled borders, telangiectasias, and central erosion. BCCs commonly arise in sun-damaged skin of the head and neck as well as the upper trunk. When a