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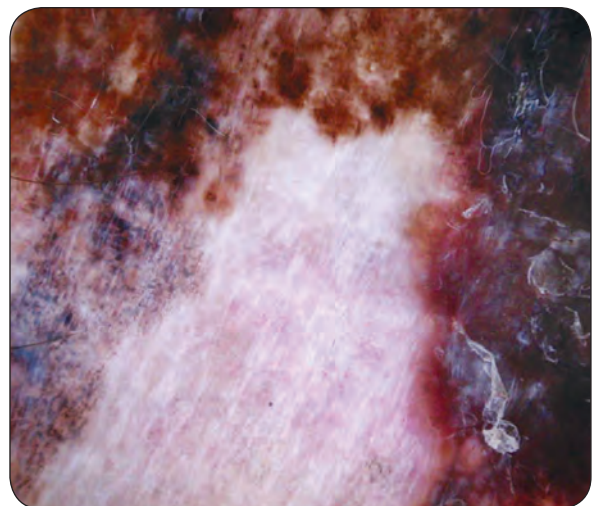
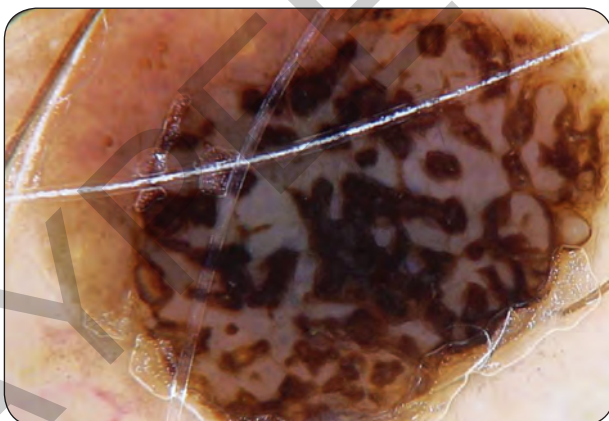
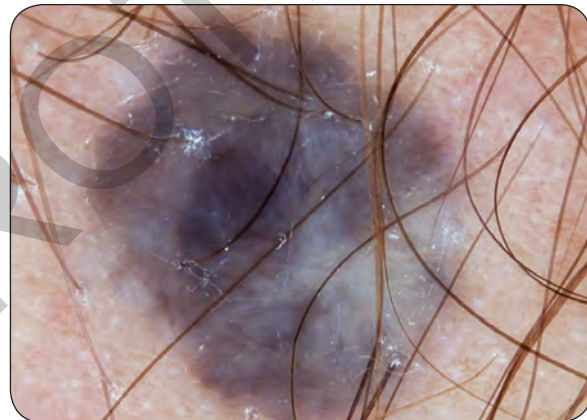
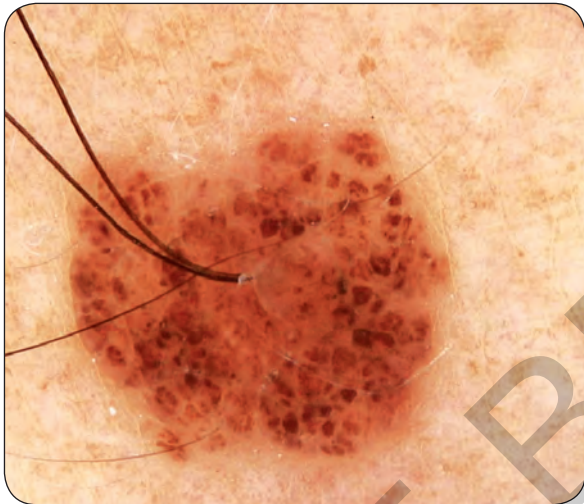
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STRUCTURES, PATTERNS, CRITERIA AND COLORS

Horacio A Cabo

2



"" The multiple repetitions of a structure form a pattern.

When the structures are associated with certain pigmented lesions and their observation implies defining a given lesion, they are called criteria.

In this manner, there are criteria for melanocytic and nonmelanocytic lesions and such criteria will be explored in different chapters of this book.

Besides the structures, different colors can be observed which help, elaborate the dermoscopic diagnosis.

It is necessary to consider type, number, and color distribution.""

By modifying the optic characteristics of the skin, the dermatoscope makes it possible to see different shapes or structures that cannot be discerned with the naked eye (Fig. 2.1).

These shapes or structures are given a name to identify them. At the beginning, a metaphoric language was used; for example, “spoke-wheel areas” or “starburst”; but this made learning difficult for beginners. For some years now, this metaphoric language has been combined with or even replaced by a new morphologic one in which, as we will see hereunder, new terms are applied; so, for example, what used to be called brown globules and blue-gray ovoid nests are now given the morphologic names of Brown Areas and Blue-Gray Areas (Figs. 2.2 and 2.3).

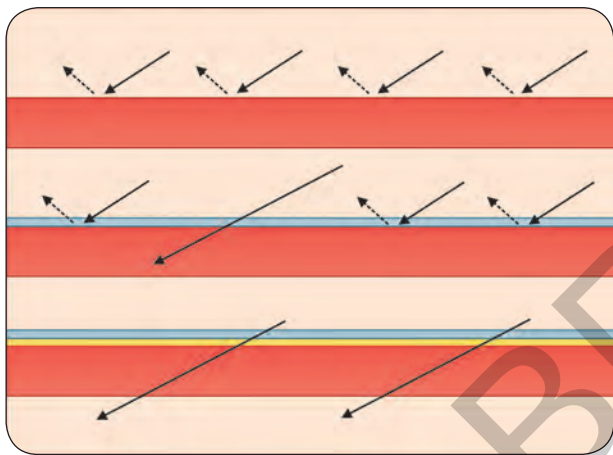


Fig. 2.1: Light reflection scheme.

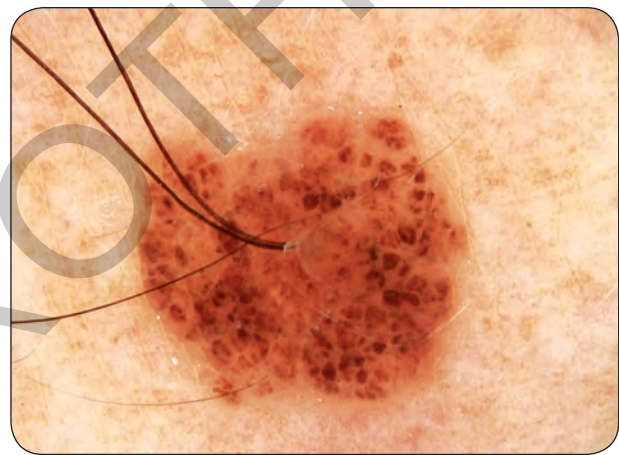


Fig. 2.2: Brown globules or brown areas (compound nevi).

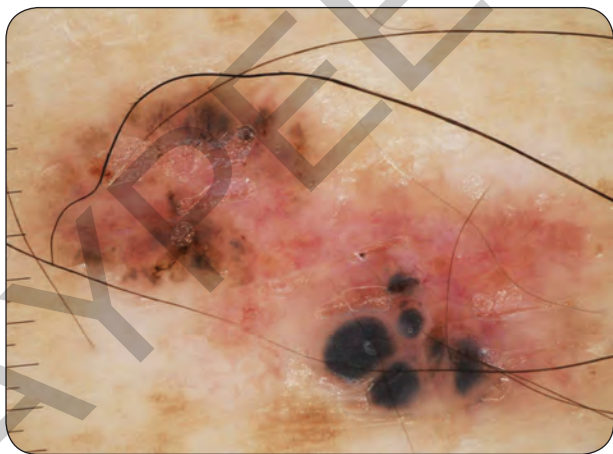


Fig. 2.3: Gray-blue ovoid nests or gray-blue areas (basal cell carcinoma).

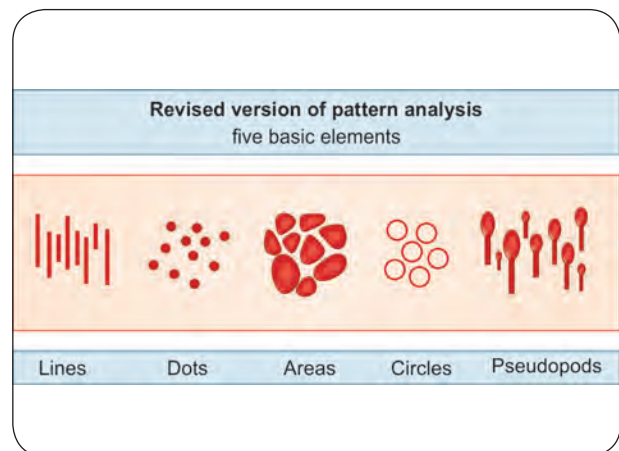


Fig. 2.4: Basic elements.

The multiple repetitions of a *structure* form a *pattern*. When the structures are associated with certain pigmented lesions and their observation implies defining a given lesion, they are called *criteria* (Fig. 2.7).

In this manner, there are criteria for melanocytic and nonmelanocytic lesions, as can be observed in Tables 2.1 to 2.4, and such criteria will be explored in different chapters of this book (Figs. 2.8 to 2.16).

Besides the structures, different colors can be observed which help elaborate the dermoscopic diagnosis.

Color is extremely important; just imagine having to differentiate brown globules from blue or red areas if we saw everything in black and white (Figs. 2.17 and 2.18).

It is necessary to consider type, number, and color distribution. Skin color is determined mainly by hemoglobin and melanin.

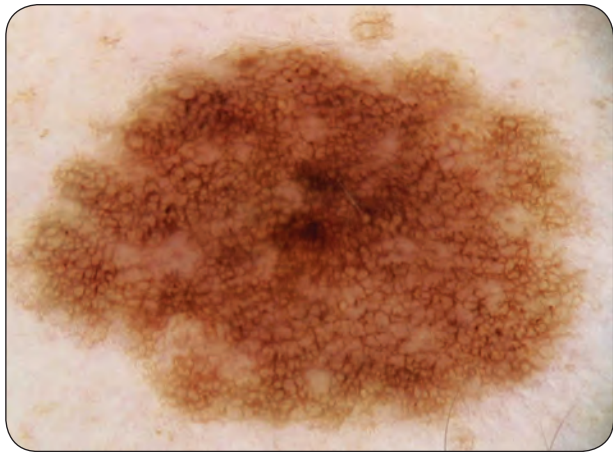


Fig. 2.5: Pigment network.

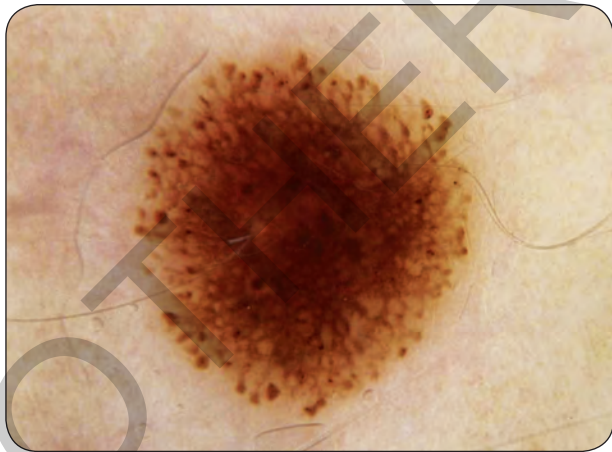


Fig. 2.6: Brown globules.

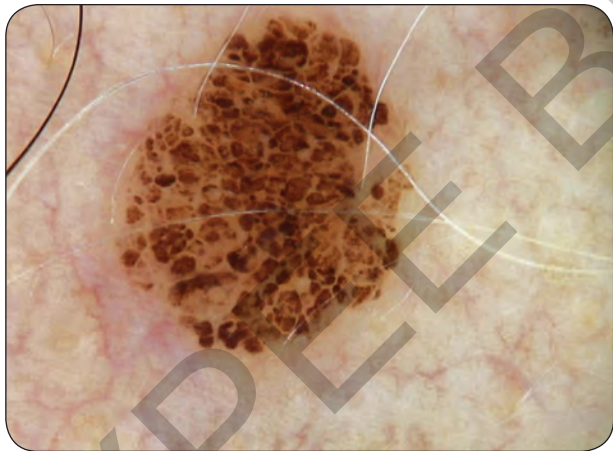


Fig. 2.7: Structure: globules; pattern: globular; "brown globules are a criterion for melanocytic lesions.

Table 2.1: Dermoscopic criteria for melanocytic lesions (Figs. 2.8 to 2.11).				
Pigment network	Aggregated globules	Streaks or projections	Homogeneous blue pigmentation	Parallel pattern

Table 2.2: Dermoscopic criteria for seborrheic keratosis (Figs. 2.12 to 2.14).	
<i>Classic seborrheic keratosis</i>	<i>Flat seborrheic keratosis (Lentigo solaris)</i>
Milia-like cysts	Fingerprint-like structures
Comedo-like openings (irregular ridges)	Moth-eaten border
Fissures and ridges (similar to brain surface)	Jelly sign
Vascular pattern	

Table 2.3: Dermoscopic criteria for basal cell carcinoma (Fig. 2.15).

Vascular pattern	Blue-gray pigmentation	Ulceration
Thick vessels with multiple branching or arborizing vessels	Leaf-like or digit-like structures Big ovoid nests or structures Multiple globules Radiated areas	

Table 2.4: Dermoscopic criteria for angioma (Fig. 2.16).

Blue-red lacunes: round areas of blue or red color

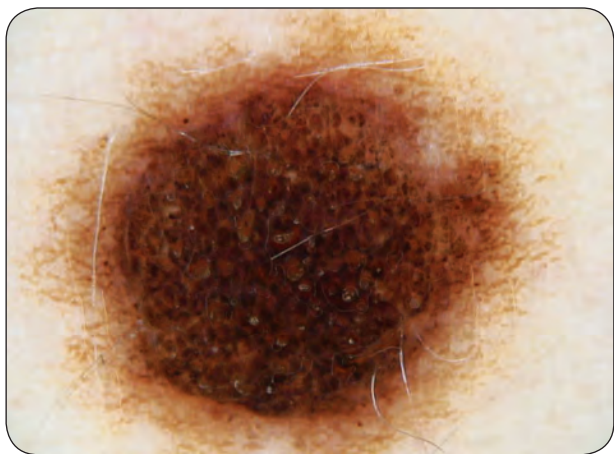


Fig. 2.8: Compound nevus. Pigment network and aggregated brown globules.

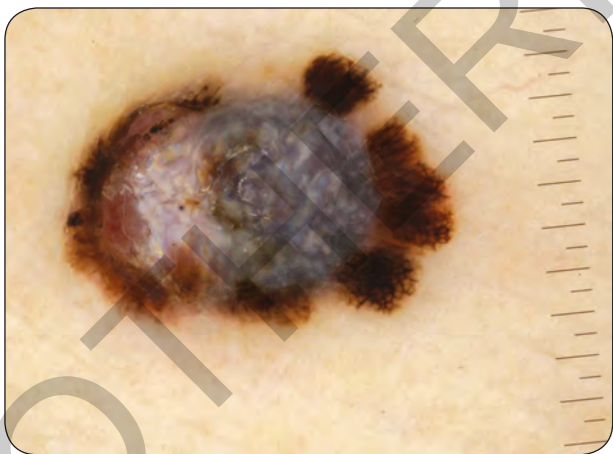


Fig. 2.9: Melanoma. Projections or streaks.

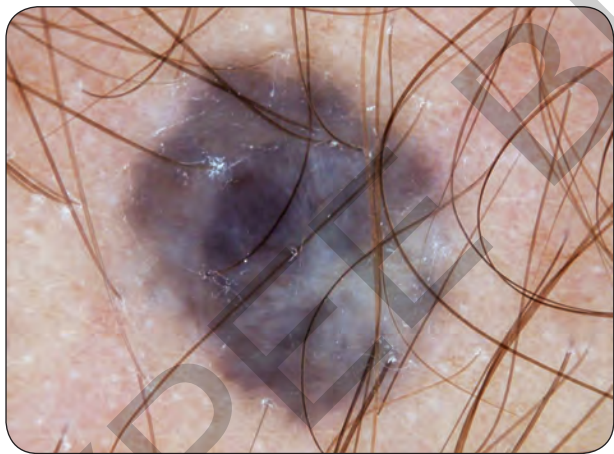


Fig. 2.10: Blue nevus. Homogeneous blue pigmentation.



Fig. 2.11: Acral nevus. Furrow parallel pattern.

The different colors that can be observed are white, red, black, blue, gray, yellow, light brown, and dark brown and their combinations or variants. Colors red, pink, or blue-red, and occasionally light brown, are related to the vessels, with the presence of hemoglobin and the degree of oxidation (Fig. 2.19).

White color represents lack of pigment, atrophy, or fibrosis (Fig. 2.20), while yellow corresponds to keratin (Fig. 2.21).

Brown color is generally related to melanin. Depending on where it is located, melanic pigment will be visualized in different colors, due to the Tyndall effect (Fig. 2.22).

When it is located in the stratum corneum or epidermis, it looks black; if it lies in the dermoepidermal junction and in the papillary dermis, it looks dark brown or light brown; and if it is located in the dermis, it looks blue (Fig. 2.23).

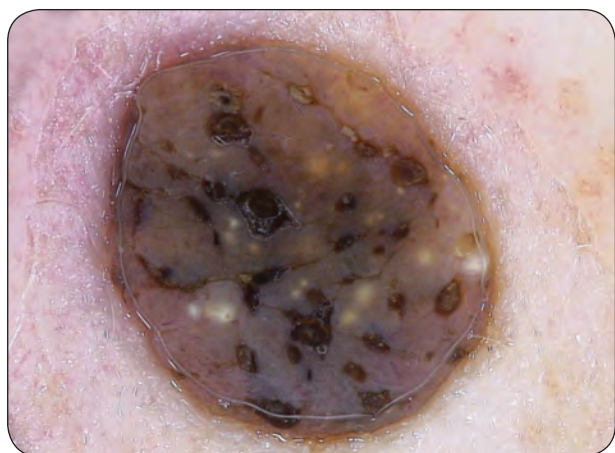


Fig. 2.12: Seborrheic keratosis. Multiple pseudocysts and pseudo-openings.



Fig. 2.13: Solar lentigo. Fingerprint-like structures and concave border.

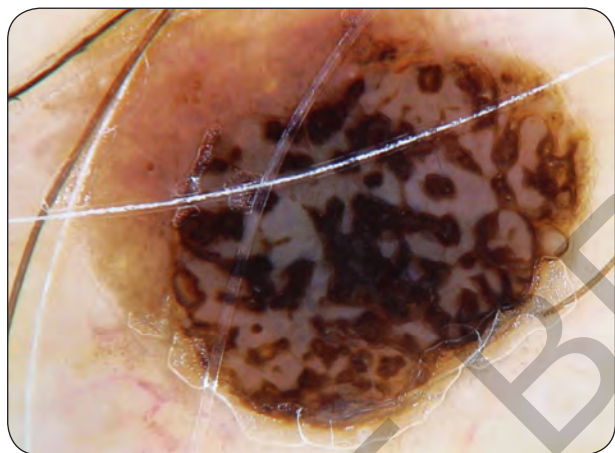


Fig. 2.14: Seborrheic keratosis. Brain-like pattern.

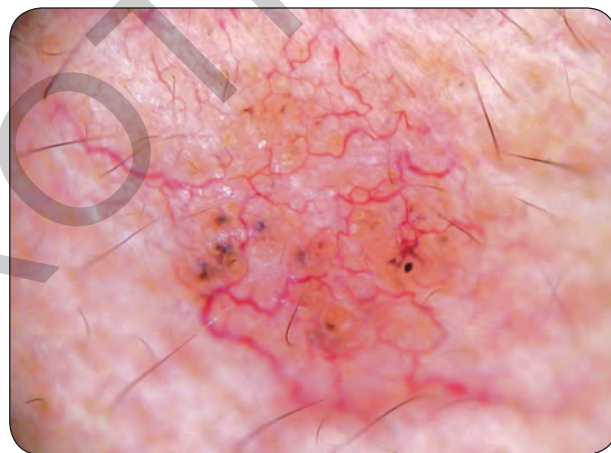


Fig. 2.15: Basal cell carcinoma. Arborizing vessels and blue-gray pigmentation.

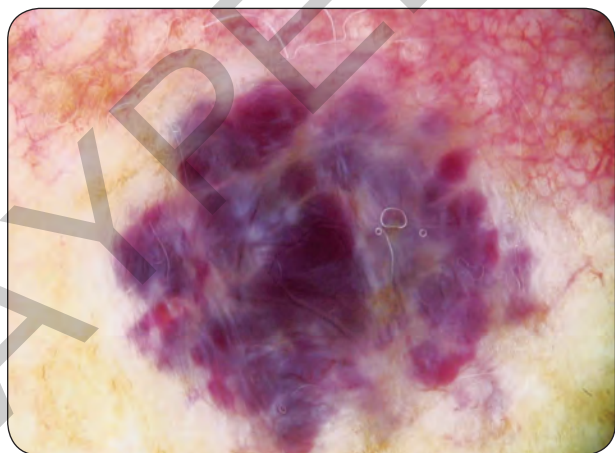


Fig. 2.16: Hemangioma. Red-blue areas.

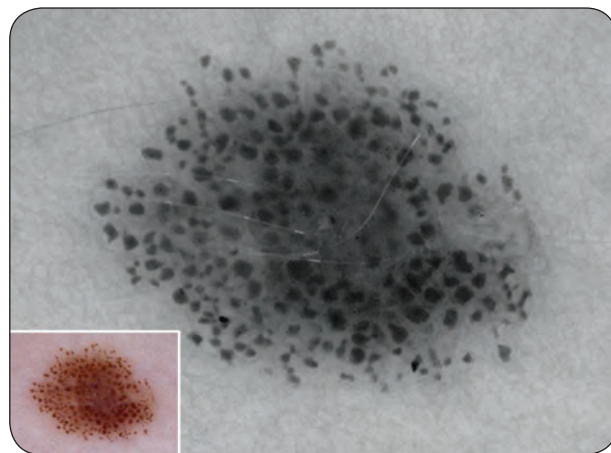


Fig. 2.17: Lesion in black and white. Diagnosis: Nevus.

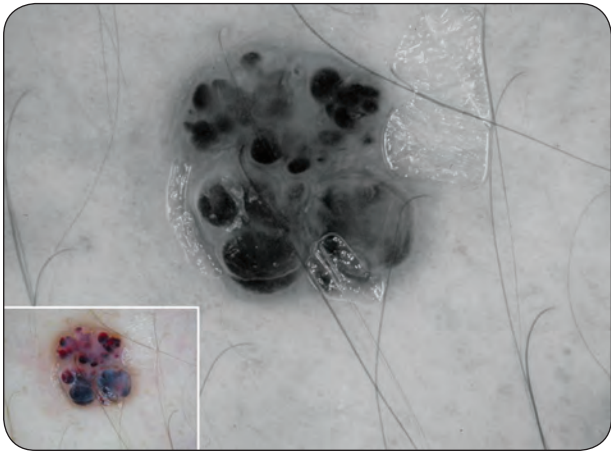


Fig. 2.18: Lesion in black and white. Diagnosis: angioma.

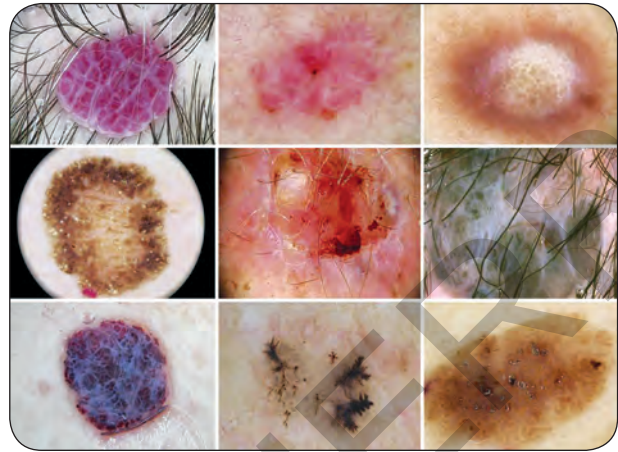


Fig. 2.19: Examples of different colors.

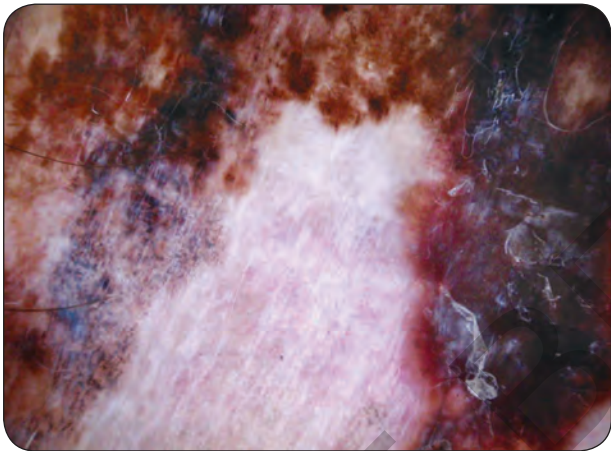


Fig. 2.20: Melanoma. White color.

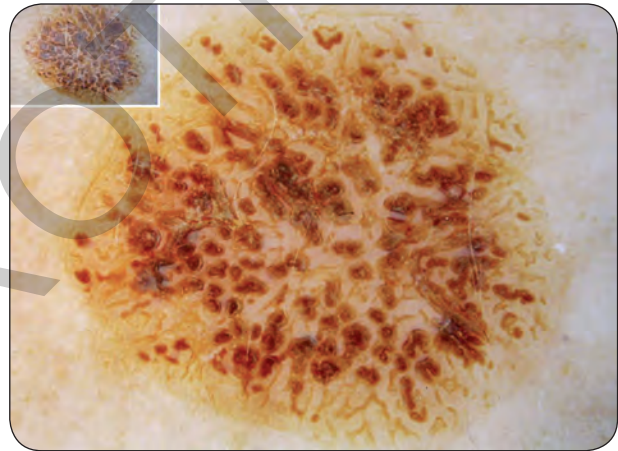


Fig. 2.21: Seborrheic keratosis. Yellow color.

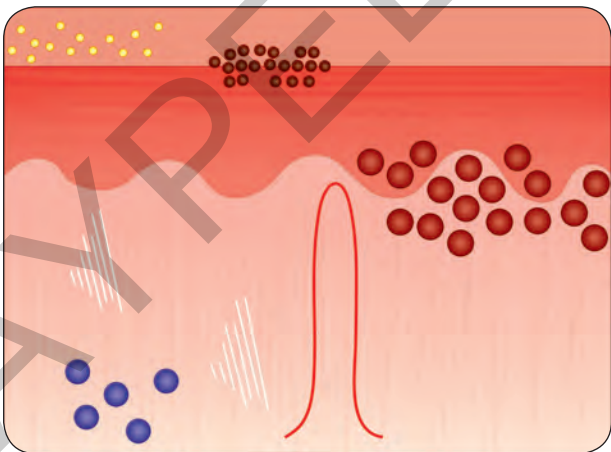


Fig. 2.22: Different colors seen with dermoscopy depending on localization (Tyndall effect).

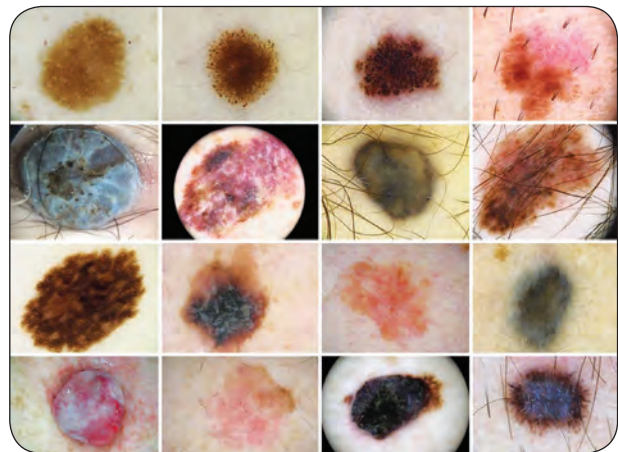


Fig. 2.23: Example of different colors due to melanin pigment.

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