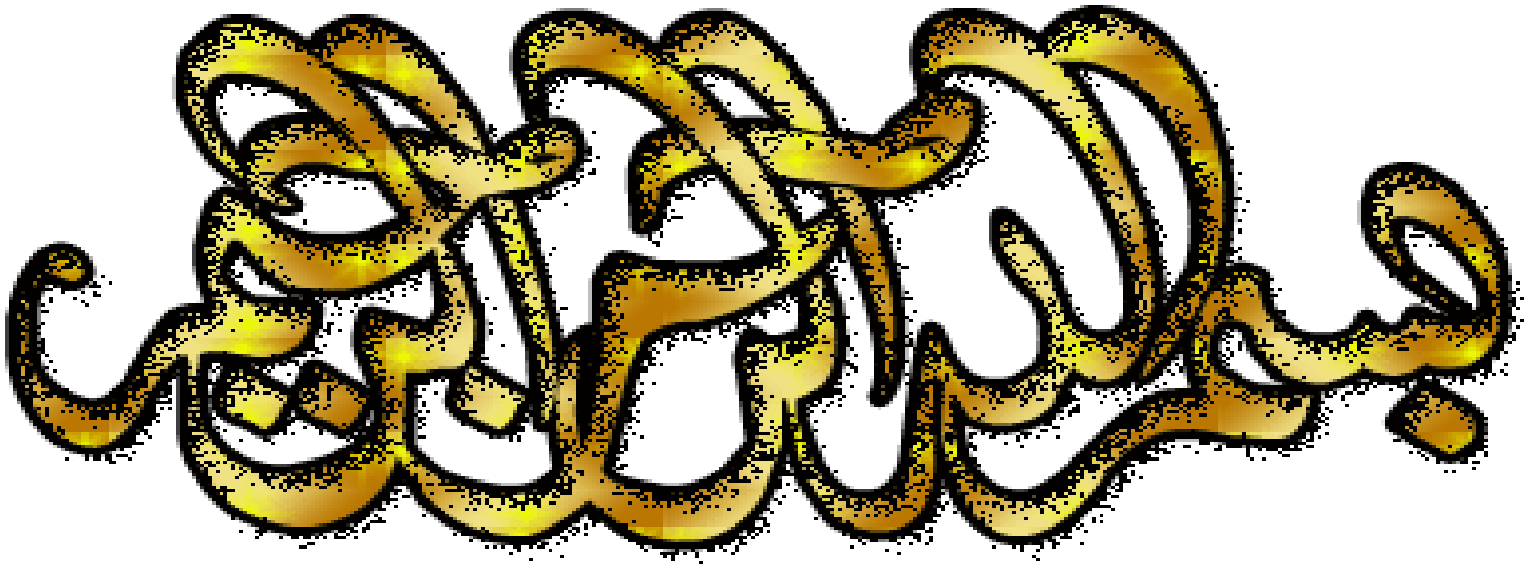

Dermoscopy

By

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Dermoscopy

➢**Dermoscopy** (also known as **dermatoscopy** or epiluminescence **microscopy**) is the examination of skin lesions with a **dermatoscope**, a magnifier (typically x10) with a light and a liquid medium between the instrument and the skin, thus illuminating the lesion without reflected light.

➢**Dermoscopy** is a noninvasive method that allows the in vivo evaluation of colors and microstructures of the epidermis, the dermoepidermal junction, and the papillary dermis not visible to the naked eye.

- **Dermoscopy is helpful to dermatologists in distinguishing benign from malignant lesions, especially of aid in the diagnosis of malignant melanoma.**

- **Therefore, the specificity is increased reducing the frequency of unnecessary surgical excisions of benign lesions.**

- **Also, it reduces the need for a biopsy.**

Application of Dermoscopy:

- **The typical application of dermatoscopy is early detection of melanoma.**
- **Monitoring skin lesions suspicious of melanoma. Digital dermoscopy images are stored and compared to images obtained during the patient's next visit.**
- **Aid in the diagnosis of other skin tumors - such as BCC, Sq.CC, cylindromas.& dermatofibromas, angiomas, seborrheic keratosis**
- **Aid in the diagnosis of scabies and pubic louse.**
- **Aid in the diagnosis of warts. By examining warts at late stages of treatment, to assure that therapy is not stopped prematurely.**
- **Aid in the diagnosis of hair and scalp diseases. Dermoscopy of hair and scalp is called trichoscopy.**
- **Determination of surgical margin of skin cancers.**

Stereomicroscope , allows an accurate binocular observation with different magnifications (X6-80).

Videodermatoscope include a video probe that transmits images of the PSL to a color monitor.

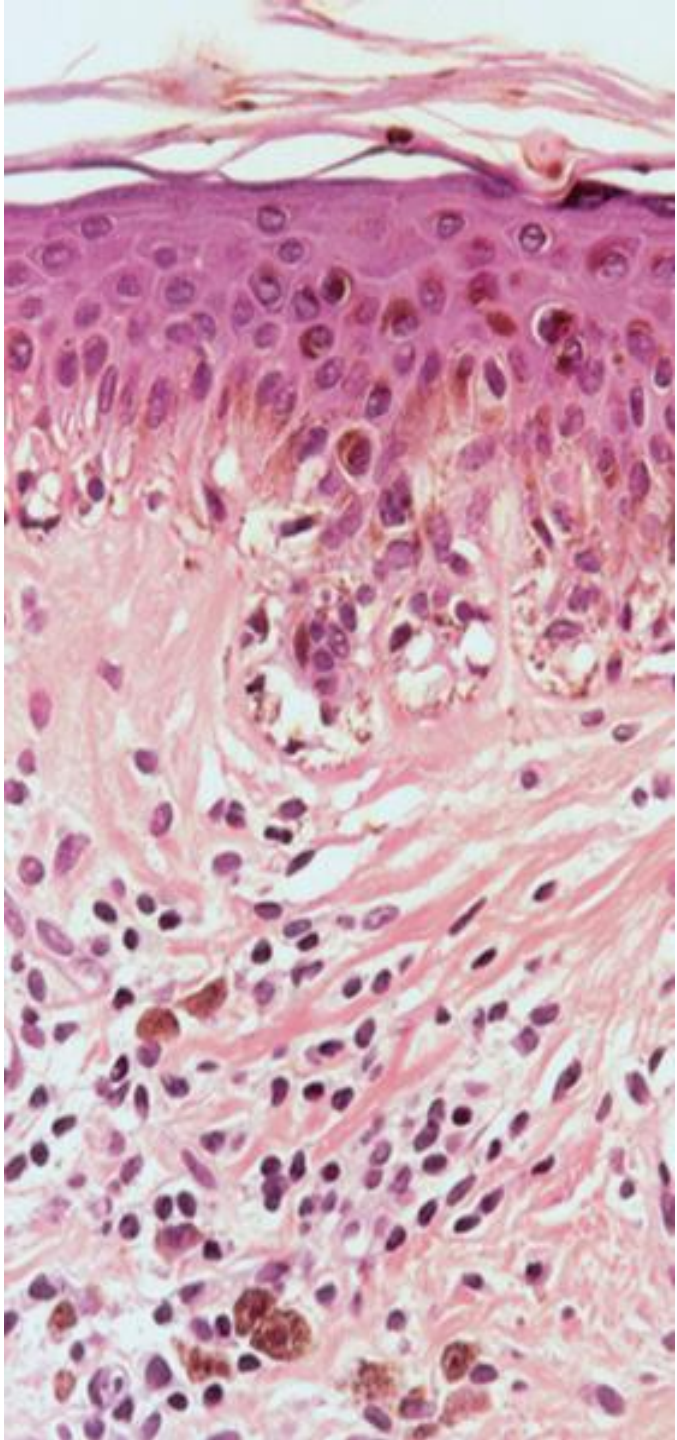
The recent addition of a digital system to the stereomicroscope, also termed the digital videodermatoscope.

Stratum corneum

Epidermis

Papillary dermis

Medium dermis



Guide Criteria

Primary criteria:

Pigment network.

Pseudopigmented network.

Radial streaming and pseudopods.

Pigmented globules.

Secondary criteria:

Pigmented dots.

Blue-white veil.

Blue-gray areas.

Steel blue areas.

Depigmentation.

Pigmented Network

- It is the most important dermoscopic feature of melanocytic lesions.
- It consists of pigmented network lines and hypopigmented holes.
- The network lines correspond to the rete ridges, which are thicker and have a greater quantity of melanin. While the hypopigmented holes corresponds to the suprapapillary plate, which is relatively thin and contains less melanin.
- In melanocytic nevi, the PN is slightly pigmented (light-brown), network lines are thin and fade gradually at the periphery. Holes are regular and narrow. The distribution is symmetric and sometimes accentuated in the center of the lesion.
- In melanoma, the PN usually ends abruptly at the periphery and has irregular holes, thickened and darkened network lines, and treelike branching at the periphery.

Pseudopigment Network

- **Dermoscopic features of homogeneous pigmentation of the face (interrupted by hypopigmented hair follicles and hypopigmented sweat gland openings) create a pseudopigmented network.**

- **In benign lesions, this pseudonetwork tends to be uniform and symmetric in color and pattern.**

- **In contrast, in lentigo maligna melanoma, the pseudonetwork becomes nonuniform and asymmetric in color and pattern because of the increased number of atypical melanocytes extending down hair follicles and adnexal structures.**

Radial streaming & pseudopods

- **Radial streaming and pseudopods are different morphologic expressions of malignant melanoma, specifically melanoma in the radial growth phase.**

- **Pseudopods are curved fingerlike projections that are predominantly dark brown or black and are located at the periphery of a lesion. They occasionally have small knobs at their tips.**

- **Radial streaming and pseudopods histologically correspond to confluent junctional nests of atypical melanocytes**

Pigmented golobules

- Pigmented globules are round or oval, dark brown or black, and larger than 1 mm in diameter.
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- They are uniform in PSLs but vary in size, color, and shape in atypical nevi and melanoma. When abundant, aggregated globules have a cobblestone pattern, which is typical of benign melanocytic lesions.

- Pigmented globules correspond histologically to nests of pigmented melanocytes (nevus or melanoma) at the junction in the papillary dermis or, because of melanin storage, in melanophage clusters in the papillary dermis.

Pigmented Dots

- **Pigmented dots are small, round or irregularly shaped pinpoint structures that are black or dark brown.**
- **They correspond to focal accumulations of free melanin or an increased number of highly pigmented melanocytes in the cornified layers of the epidermis.**
- **Vertical capillaries found on apical dermal papillae appear as red dots on the palms and soles.**
- **sweat gland openings appear as white dots.**

Blue-white veil

- **A blue-white veil is a ground-glass area of pigmentation that is blue-gray to blue-white in color.**

- **It is correlated histologically with compact orthokeratosis and hypergranulosis, with confluent nests of heavily pigmented melanocytes in the dermis.**

- **A blue-white veil is often found in melanomas.**

Blue-Gray areas

- Blue-gray areas are ELM features with coloration varying from gray-blue to deep gray.

- They may be associated with melanoma regression.

- They are correlated histologically with the presence of melanin and/or hemosiderin within melanocytes and melanophages in the papillary and middle dermis.

Steel blue areas

- **Steel blue areas are structureless, gray-blue, and homogeneously diffuse. They are found in blue nevi.**

Depigmentation

- Depigmentation depends on a lack or reduction of pigment in the PSL.

- In contrast to hypopigmented areas, depigmented areas completely lack pigment.

- Histologically, they correspond to fibroplasia, telangiectasias, and loss of melanin

Nonspecific Guide Criteria

Milialike cysts. → **Seborrheic Keratosis**

Comedolike openings. → **Seborrheic Keratosis**

Red-black lagoons. → **Heamangioma &**

Angiokeratoma

Maple leaf-like pigmentations. → **Pigmented BCC**

Vascular Patterns

Treelike vessels → pigmented basal cell carcinoma of any type.

Corona vessels → sebaceous gland hyperplasia.

Comma-shaped → dermal nevi.

Point vessels → melanocytic tumors & superficial epithelial tumors (ie, actinic keratosis, bown's disease).

Hairpin vessels → melanomas (at the border) & squamous cell carcinoma, keratoacanthoma & seborrheic keratosis.

Linear irregular vessels → melanoma.

Acral melanocytic lesions

PARALLEL-FURROW PATTERN

LATTICE-LIKE PATTERN

FIBRILLAR PATTERN

PARALLEL-RIDGE PATTERN

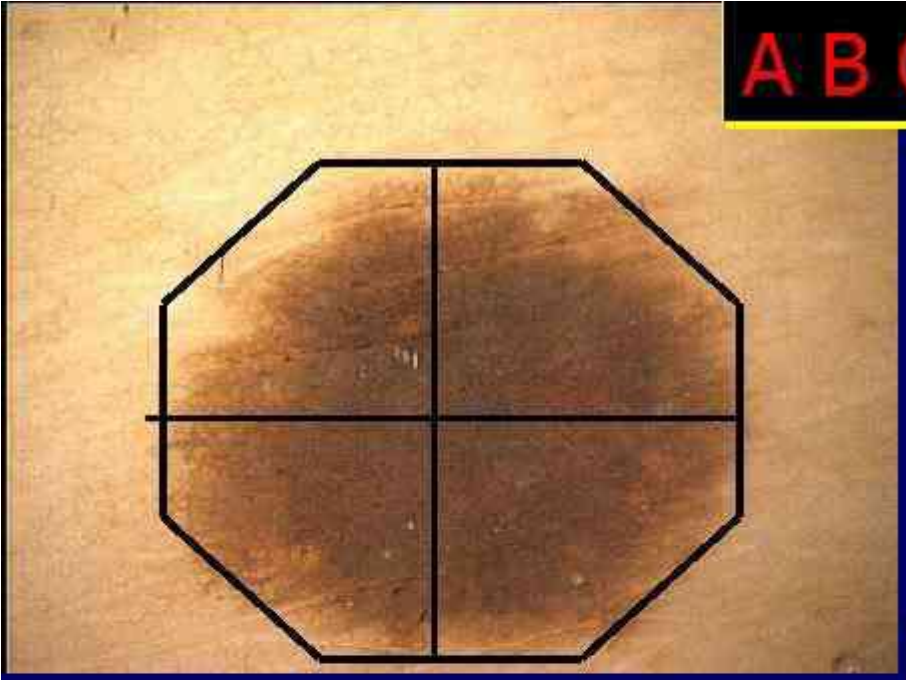
ABCD Rule

Criterion	Score	Weight Factor
Asymmetry	0-2	x 1,3
Border	0-8	x 0,1
Color	1-6	x 0,5
Dermoscopic Structures	1-5	x 0,5

ABCD rule

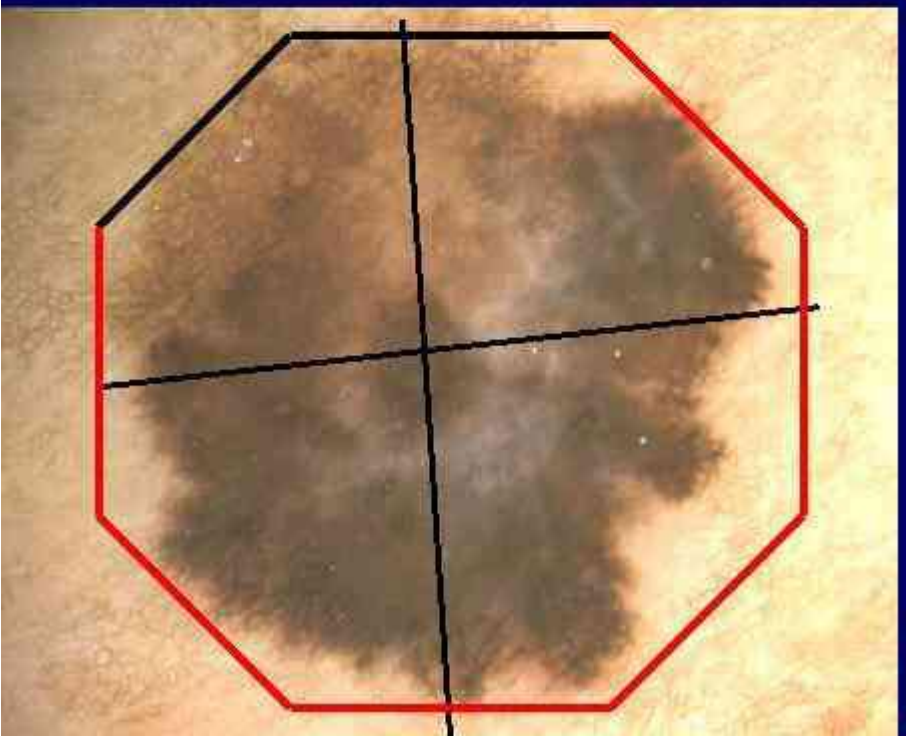
TDS (Total Dermoscopy Score)	Interpretation
< 4.75	Benign melanocytic lesion
4.8-5.45	Suspicious lesion
> 5.45	Lesion highly suggestive of melanoma
> 5.45 (False-Positive)	Reed and Spitz nevus Clark nevus with globular pattern Congenital melanocytic nevus

A B C D rule of dermoscopy



A= 0
B= 0
C= 2 Light brown and black brown
D= 2 Network, homogenous areas, branched streaks, globules
TDS= 2
BENIGN

CLARK NEVUS



A= 2
B= 6
C= 5 White, black, light brown, black brown, blu-gray
D= 4 Network, homogenous areas, branched streaks, globules
TDS= 7,7
MALIGNANT

MELANOMA 0,43 mm


Thank You