

Summary

Pigmentation Facts

Pigments which influence skin color

- 1) Melanin
- 2) Hgb
- 3) Carotene
- 4) Hemoglobin
- 5) Melanogenesis, Sun Exposure and skin change
- 6) Skin Type and Skin Color

Melanin – definition and formation

Melanin is a natural substance that gives color (pigment) to hair, skin, and the iris of the eye. It is produced by cells in the skin called melanocytes. Melanin also helps protect the skin from the sun.

Function of melanin: The melanin in the skin is produced by melanocytes, which are found in the basal layer of the epidermis. Although, humans have a similar concentration of melanocytes in their skin, the melanocytes in some individuals and ethnic groups more frequently or less frequently express the melanin-producing genes. Some individual people have very little or no melanin synthesis in their bodies, a condition known as albinism.

Disorders of pigmentation

- 1) Vitiligo
- 2) Albinism

Distribution of abnormal pigmentation

- 1) Cellular Senescence
- 2) Hormonal Induced Pigmentation
- 3) Melasma

4) Pigment loss after skin damage

Hyperpigmentation - common causes and example

1) Sun

2) Hormone

3) Heredity

4) Acne

5) Blotched skin treatment

6) Tanning beds

7) Skin irritation

8) Inflammation

9) Acne vulgaris

Conditions

Ephelides – A small brownish spot on the skin, often turning darker or increasing in number upon exposure to the sun

Lentigo – Lentigines (plural of lentigo) are flat brown lesions which do not darken following sun exposure (thus differentiating them from ephelides or true freckles).

Chloasma - Chloasma looks like patches of darkened skin that may be on the forehead, nose, and cheeks. It may look like a mask which is seen more often in dark-skinned women.

Phytophotodermatitis - Phytophotodermatitis is a skin condition that happens when people have sensitivity to chemicals in certain plants and fruits. The reaction to those chemicals is triggered when the affected skin is exposed to sunlight or other ultraviolet light. Some common chemicals that cause this are certain plants and fruits

Pigmented nevi – These are growths on the skin that usually are flesh-colored, brown or black. Moles can occur anywhere on the skin, alone or in groups. Moles occur when cells in the skin grow in a cluster instead of being spread throughout the skin. Pigmented nevi (moles) are growths on the skin. Moles occur when cells in the skin grow in a cluster instead of being spread throughout the skin. Moles may darken after exposure to the sun and as we age.

Locations in the dermis and descriptions

- 1) Congenital – Congenital means that it is present at birth. Sometimes people get confused about the difference between congenital and hereditary.
- 2) Melanocytic – This means it is pigment-based. Melanin is the pigment found in human skin. Melanin is usually distributed evenly throughout the skin
- 3) Nevus – A nevus is a birthmark and can be used to describe any mole or birthmark.
- 4) Dysplastic nevi - A dysplastic nevus is an unusual mole that can be large and flat and does not have a symmetric borders. The edge is often indistinct. It may have a mixture of pink, tan, or brown shades. People who have dysplastic nevi have a greater chance than others of developing melanoma.

Malignant melanoma – This is the most dangerous form of skin cancer. These growths develop when damaged DNA (damage to skin cell caused by ultraviolet radiation). Examples are sun or tanning beds. This starts mutations with genes that lead the skin cells to multiply rapidly and form malignant tumors. These tumors originate in the pigment-producing melanocytes in the basal layer of the epidermis. Melanomas can look like moles and some develop from moles. The majority of melanomas are black or brown, but they can also be skin-colored, pink, red, purple, blue or white. Melanoma is caused mainly by intense UV exposure. Risk factors in certain people

- Family history of melanoma or skin cancer
- Family history of irregular moles
- Family history of pancreatic cancer
- Previous melanoma
- Previous sun exposure
- Changes noted in moles such as size, color, and uneven borders

Suspicious features in a nevus

The color changes
It gets smaller or bigger
It changes in shape and texture
The skin on the surface is dry or scaly
It feels hard or feels lumpy
It starts to itch, bleed, or ooze

Ochronosis - Ochronosis is the bluish black discoloration of tissues, such as the ear cartilage and the ocular tissue. Ochronosis can sometimes occur from exposure to substances such as phenol, resorcinol, mercury, benzene, and hydroquinone.

Hypopigmentation – common causes and examples

- 1) Increased sensitivity to the sun in reaction to certain medication or drugs
- 2) Excessive exposure to heat
- 3) Family history of pigmentation problems
- 4) Changes in hormone levels
- 5) Skin re-surfacing treatments that have not been done properly
- 6) Sunburn or excessive sun exposure
- 7) post inflammatory

Pigmentation Conditions

Albinism – It is an inherited skin disorder that occurs due to the absence of a melanin producing enzyme. This condition causes a total lack of pigmentation in the skin, eyes and hair. Albinism is more common in whites, but can affect people of all races. There is no cure for this disorder.

Vitiligo – An autoimmune skin disorder that causes smooth, white patches on the skin all over the body. This condition occurs when the pigment-producing cells in the body are damaged and there is no cure for it.

Pityriasis versicolour: Pityriasis versicolor is a common skin complaint in which flaky discolored patches appear mainly on the chest and back. It is sometimes called tinea versicolor.