

DERMATOLOGY



Pigmentary disorders of the skin [Vitiligo]

DONE BY

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Objectives:

- To know the anatomy and physiology of melanocytes
- To recognize the primary presentation of vitiligo
- To understand the possible pathogenesis of vitiligo
- To know the scheme of managements lines

❖ Introduction to skin pigments

Melanocytes are melanin-producing cells located in the stratum basale (basal layer) of the skin's epidermis.

The ratio between melanocyte and keratinocyte is 1:30 so every 1 melanocyte will supply 30 keratinocyte

Typically, between 700 and 1000 melanocytes per square millimeter (1mm²) of skin are found



❖ Vitiligo:

Clip will make you understand the disease better
http://www.youtube.com/watch?v=YSS_hzko



❖ **Definition:** it is an **autoimmune disease** results in a **well-defined depigmented** (complete loss of melanin) macules and patches that can be localized or generalized

❖ **Types:** localized and generalized

- **Localized:** specific area
- **Generalized:** all the body is affected

❖ **Pathogenesis:** three theories most accepted is the **autoimmune theory**

❖ **Other associated diseases:** thyroiditis, Addison's disease, pernicious anemia and diabetes

❖ **Natural course:** rarely repigment without treatment

Natural course: The timeline of a morbid condition from onset–inception to resolution; the course of a particular disease if it is not treated or manipulated in any way

Important information doctor mention it and not found in slides:

1-The **Koebner phenomenon**, also called the "Koebner response" or the "isomorphic response", refers to skin lesions appearing on lines of trauma **ex: bony prominent, skin scratching**

2- A **Wood's lamp** is a diagnostic tool used in dermatology by which ultraviolet light is shone (at a wavelength of approximately 365 nanometers) onto the skin of the patient.

Wood's lamps have also been used to **differentiate hypopigmentation from depigmentation** such as with vitiligo. A vitiligo patient's skin will appear milky white under the Wood's lamp



❖ **Treatment:**

- **No single effective Rx**
- **Topical:**
 - **Corticosteroids** (the **main** treatment)
 - **Immunomodulators** (**tacrolimus and pimecrolimus**) (used as **adjuvant** treatment)
- **Light Therapy:** it is used to **stimulate** the melanocyte to produce melamine
 - **UVA or UVB**
 - **UVA + Psoralen = PUVA (Topical and Systemic)**
 - **UVB = Laser**
- **Systemic Treatment:** **NOT USED**
- **Surgical Rx:**
 - **Melanocyte Transplant** (**only in fix inactive vitiligo**)
 - **Skin Grafts Transplant**
- **Bleaching Agents: Depigment all skin**

The Dr. Say it is very important to know that **Immunomodulators** can used to treat vitiligo

Psoralen: drug **increasing skin sensitivity to ultraviolet light**; psoralen in conjunction with ultraviolet A light (PUVA) is used to treat vitiligo

(Used as **final solution** if all other treatment are **failed** and the vitiligo is increasing and affect **more than 50%** of the skin) the agent name is **Benoquin** >>> Dr. say it very **important** to know the name of the agent common MCQ question

MOA for Benoquin: complete destruction of melanocytes and permanent depigmentation.

Side effect: **increase the risk of skin cancer**

❖ Treatment Pearls

- **Tips of fingers and toes** >>> **resistant** to the treatment why? because it is low hair area (doctors think that hair may act as reservoir for the pigment)
- **Lips** >>> **resistant** to the treatment same cause as above
- **Bony prominence (Koebner phenomenon)** >>> **resistant** to the treatment
- **Recurrence (very high)**
- **Rarely 100% repigmentation for large area**
- **Adverse effect of Rx**

A. **Psoralen:** cause sun burn

B. **Topical Steroid:**

Adverse effects	Number (%)
Acne	249 (57.5)
Steroid addiction (topical steroid-dependent face)	65 (15)
Telangiectasia	64 (14.8)
Atrophy	58 (13.4)
Hypopigmentation	39 (9)
Perioral dermatitis	36 (8.4)
Rosacea	30 (7)
Tinea incognito	29 (6.7)
Hirsutism	28 (6.3)
Atrophic striae	13 (3)

MCQ

Thirty years old patient presented with multiple bilateral symmetrical depigmented patches over Face, trunk and extremities for 3 months. **What is the melanocyte pathology?**

- A. decrease activity
- B. Increase activity
- C. Increase in melanocyte number
- D. Absence of melanocytes

A 50 year-old male who had vitiligo more than 30 years. His vitiligo involving more than 97% of His body. **What is the best treatment option for this patient?**

- A. Topical steroids.
- B. systemic steroids.
- C. Melanocyte transplant
- D. Depigmentation.

A 6 year-old girl presented with bilateral white patches.

In case it is vitiligo, what you see under Wood's lamp?

- a. A color whiter than normal skin
- b. A color darker than normal skin
- c. Similar color to normal skin
- d. A Golden green color

45 years old science teacher has vitiligo. She knows that the defect in her melanocyte. However, she Asked about the location of melanocyte?

- A. Upper epidermis.
- B. Middle epidermis.
- C. Lower epidermis.
- D. Dermis.

A 31 years old male developed well defined macule on the face. Clinical assessment by the Dermatologist raised the suspicions of vitiligo. The ultraviolet light in the clinic showed more contract and whitening. This examination confirmed for the dermatologist that the condition is depigmentation typical of vitiligo. What's the name of the ultraviolet examination?

- A. Infra-red examination.
- B. overhead light examination
- C. wood's light examination
- D. exam with magnifier.

Ans: D, D, A, C, C