Vitiligo
Definition: acquired skin condition characterized by circumscribed depigmentation

- There is a complete loss of melanocytes from affected areas.

- found in all races; its prevalence may be as high as 1%; its inheritance is polygenic

- Male = female

- The patches of skin affected become white and usually have sharp margins.

- Typically both sides of the body are affected.

- Often the patches begin on areas of skin that are exposed to the sun.
causes

The etiology is unknown, but is thought to be multifactorial

• Genetic predisposition
• Autoimmune destruction of melanocytes
• Oxidative stress (free radicals)
• Intrinsic defects of melanocytes
• May be triggered by stress or skin injury (e.g., sunburn)

Classification according to location

- **Generalized** (most common): widespread distribution of lesions, frequently with mucosal involvement
- **Localized**: isolated area affected (e.g., dermatomal)
- **Universal**: Almost the entire body is affected.
Divided into two main patterns:

1) Generalized vitiligo (non-segmental vitiligo):
- More common.
- Usually starts at the second decade.
- There’s family history in 30% of patients.
- Most frequent in those with autoimmune diseases such as diabetes, thyroid disorders, and pernicious anemia.

Pathophysiology: It’s thought that, in this type, melanocytes are the target of a cell-mediated autoimmune attack or self-destruct as a result of an inability to remove toxic melanin precursors.

In Caucasoids the surrounding skin is sometimes partially depigmented or hyperpigmented (trichrome vitiligo).
Clinical course: the sharply defined, usually symmetrical, white patches are especially common on the backs of the hands, wrists, fronts of knees, neck and around body orifices. The hair of the scalp and beard may depigment too.

- The course is unpredictable.
- Lesions may remain static or spread,
- sometimes following minor trauma (Köbner phenomenon);
- occasionally, they repigment spontaneously from the hair follicles
- Leukotrichia: depigmented hair
2) Segmental vitiligo:

- Rare.

- Restricted to one part of the body, but not necessarily to a dermatome.

- It occurs earlier in life than generalized vitiligo.

- Less likely to be associated with autoimmune diseases.

**Clinical course:**
The individual areas look like the generalized type but their segmental distribution is striking (unilateral).

It responds poorly to most treatments, although spontaneous repigmentation occurs more often in this type than in generalized vitiligo.

*Note: Trauma and sun burn can precipitate both generalized and segmental vitiligo.*
Cont segmental vitiligo:

- **Differential diagnosis:**

  - Contact with depigmenting chemicals, such as hydroquinones and substituted phenols in the rubber industry, should be excluded.

  - Pityriasis alba: A common hypopigmented scaly patch seen in sun-exposed areas, esp. in children (resolves spontaneously or with topical steroids).

  - Pityriasis versicolor must be considered; its fine scaling and less complete pigment loss separate it from vitiligo.

  - Post-inflammatory depigmentation may look very like vitiligo but is less white and improves spontaneously.

  - Tropical diseases that cause patchy hypopigmentation like leishmaniasis and pinta

  - Piebaldism are present at birth.... rare autosomal dominant disorder of melanocyte development.

  - Leprosy
Diagnosis

- Usually a **clinical diagnosis**
- If diagnosis is uncertain:
  - **Wood's lamp examination**: The vitiligo lesions appear as well defined blue-white areas.
  - **Dermoscopy**: Vitiligo lesions have a characteristic perilesional hyperpigmentation and telangiectasia.
  - **Skin biopsy and histology**: Melanocytes are absent, perilesional lymphocytes may be observed.
- **Serological markers** of autoimmune disease (e.g. thyroid function tests and anti-thyroid antibodies) once vitiligo is confirmed
Treatment:

- **Reduce Melanocyte Stress**
  - Antioxidants?

- **Reduce Autoimmunity**
  - Steroids
  - Calcineurin Inhibitors
  - Targeted Immunotherapy

- **Enhance Melanocyte Regeneration**
  - Surgery (Melanocyte transplantation)
  - Afamelanotide
  - WNT activators
Treatment is unsatisfactory

- **Sun avoidance**

- **White people**
  - Best left untreated in most
  - **Camouflage preparations** (dihydroxyacetone)

- **Black patients** with extensive vitiligo can be completely and irreversibly depigmented by creams containing the **monobenzyl ether of hydroquinone**

- **Recent patches may respond to a potent or very potent topical corticosteroid**
  - **calcineurin inhibitors** (ointment)
  - **Psoralens**
  - **Narrowband UVB** is also effective
  - **antioxidant**
  - **Irradiating skin**

- Where pigment is absent in hair follicles or in skin without hair follicles, **autologous skin grafts** can be performed.

- **Melanocyte and stem cell transplants**.

- It’s advice about suitable camouflage preparations (tanning lotions and makeups) to cover unsightly patches should be given.
<<Thank you for listening>>