

# Pigment and Hair disorders

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# OBJECTIVES

## I. Pigment Disorders

Basic anatomy and physiology of pigment cells

### Vitiligo

- Pathology, clinical presentation, needed investigations, treatment and prognosis.

### Albinism

- Pathology, clinical presentation, management, and complications

### Melasma

- Causes, clinical presentation and management.

## **II. Hair Disorders**

- Basic anatomy and physiology of hair and hair cycle.
- Differences between scarring vs. non-scarring alopecia.

### **Androgenetic Alopecia**

- Male and Female .... Presentation
- Pathophysiology and the role of 5 alpha reductase.
- Medical Treatment
- Surgical Treatment

### **Alopecia Areata**

- Clinical presentation
- Types
- Treatment

### **Anagen Effluvium**

- Cause, presentation

## **Telogen Effluvium**

- Causes , Investigations and treatment

## **Trichotillomania**

- Clinical presentation and treatment

## **Tinea Capitis**

- Clinical presentation, diagnosis and treatment

## **Chronic Discoid Lupus**

- Clinical Presentation and complications

## **Hirsutism**

- Difference from hypertrichosis
- Causes of hirsutism
- Investigations: when to do it and what?
- Treatment

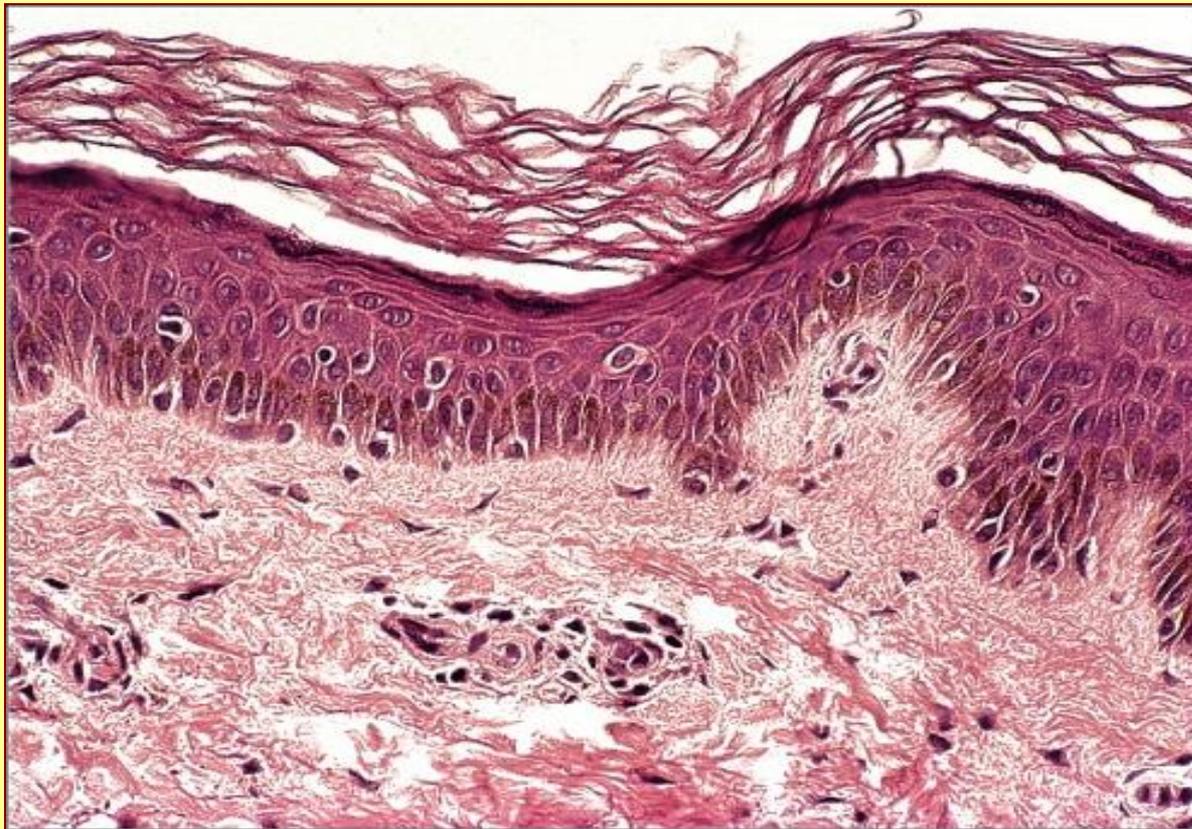
## **Hypertrichosis**

- Causes and treatment

# Pigment disorders

- Classification:
  - Hypo , hyper or depigmentation
- Vitiligo
- Albinism
- Melasma

## ✓ Introduction to skin pigment



# Vitiligo

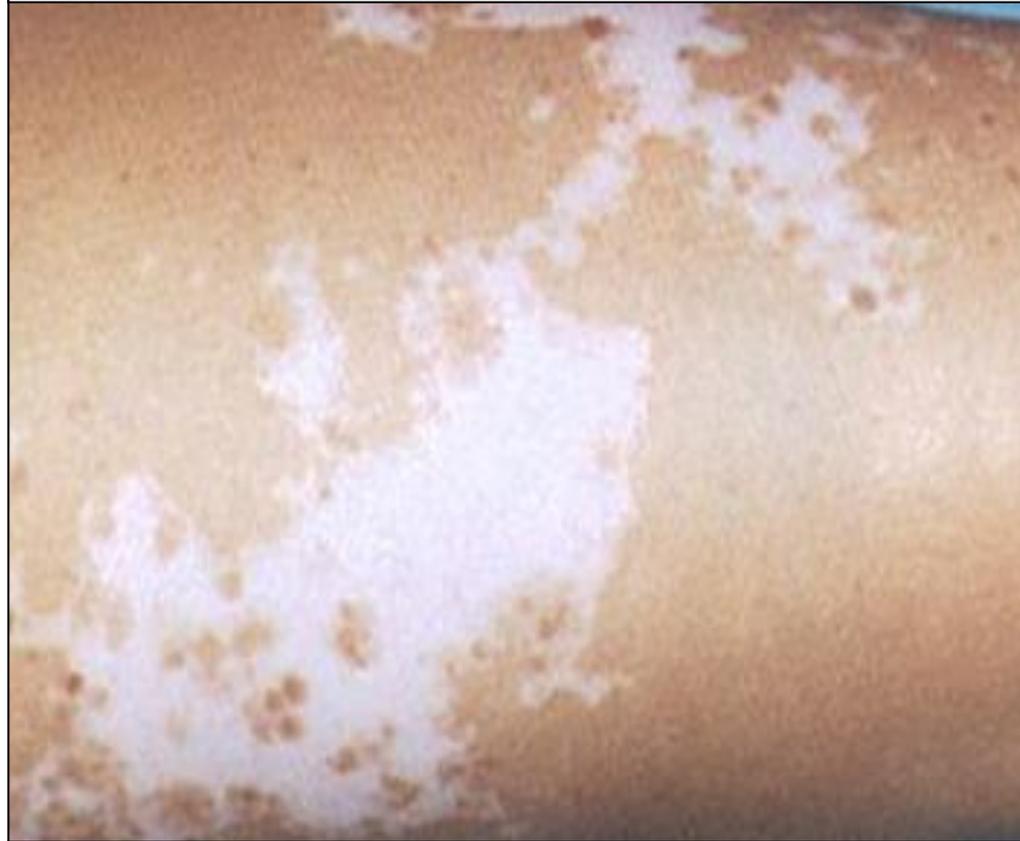


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✓ **Definition**

✓ **Types:**

**focalis**

**segmentalis**

**vulgaris(generalized)**

**universalis**

- ✓ **Pathogenesis:**
  - autoimmune**
- ✓ **Associated diseases**
- ✓ **Prognosis**
- ✓ **Psychosocial effects**

# Treatment

- **Skin camouflage**
- **Topicals: Corticosteroids**
  - Immunomodulators**
  - Outdoor topical psoralen**
- **Phototherapy:**
  - 1. UVA + Psoralen = PUVA**
  - 2. NBUBVB**
  - 3. Excimer laser**



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➤ **Systemic Treatment:**

➤ **Surgical Rx:**

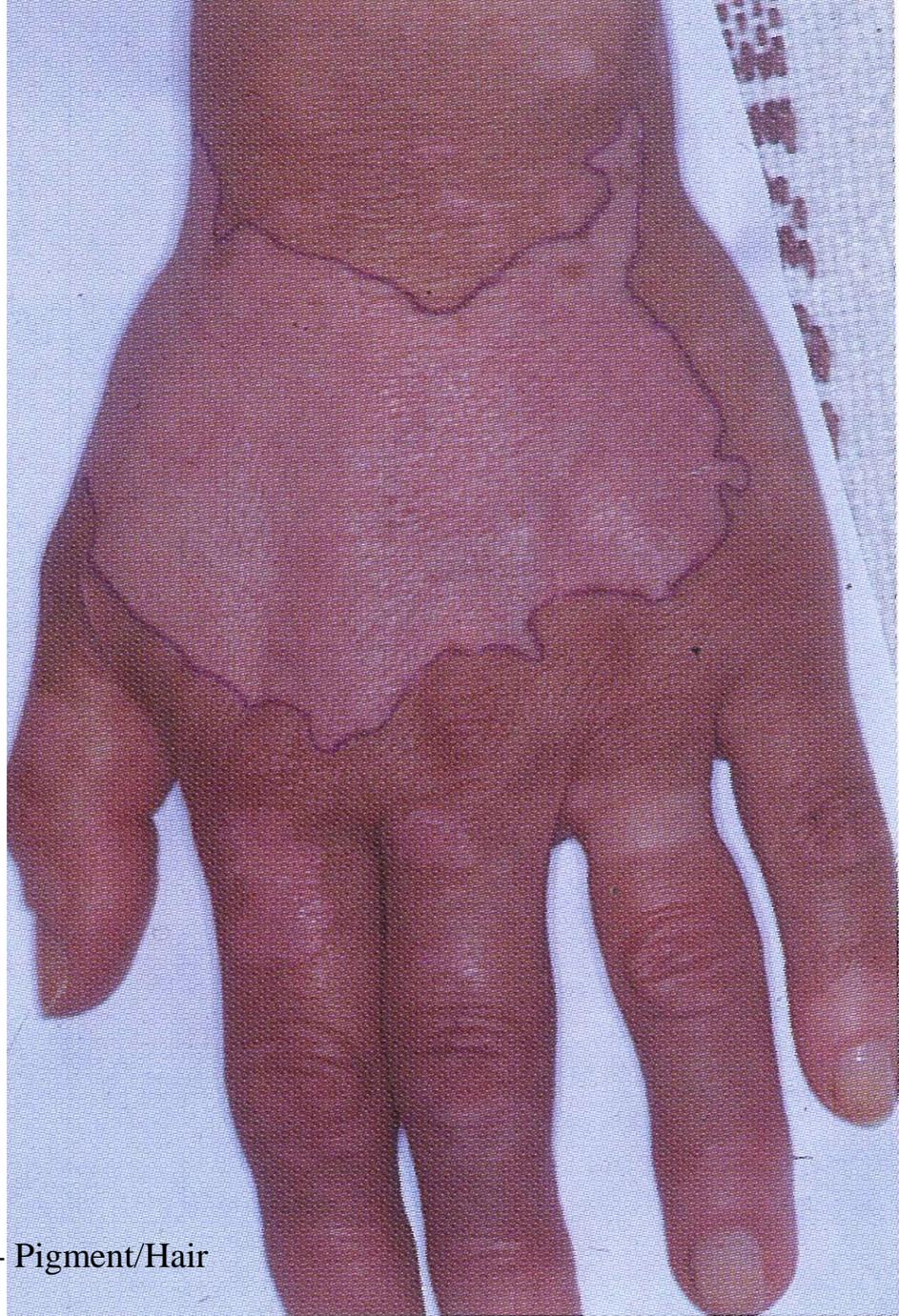
**Conditions:**

**types:**

**.tissue**

**.cell**

➤ **Depigmentation**



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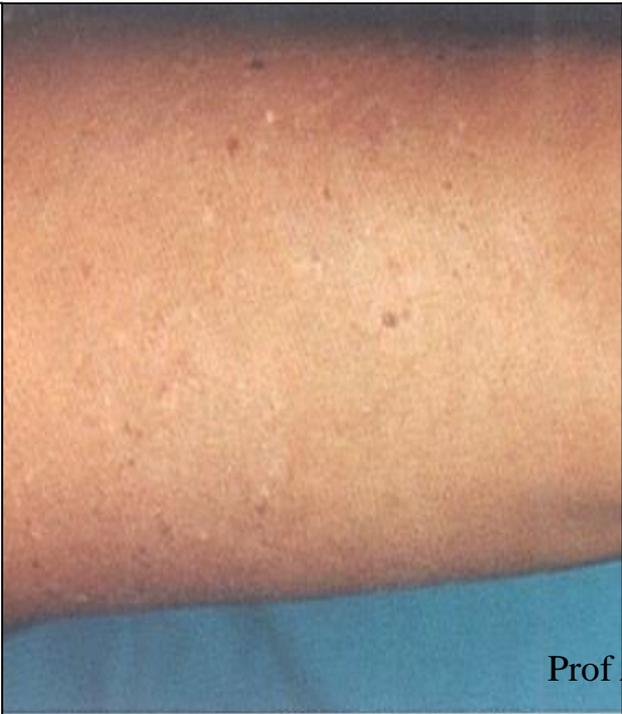
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# SBG



**STG**





# Albinism

- autosomal recessive disorder
- lack of pigment production by melanocytes in the epidermis, hair bulb, and eye.
  
- skin is white or pink
- the hair is pale blonde
- iris is translucent.



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# Albinism

- Sunlight is very poorly tolerated, and sunburn and photophobia are common symptoms.
- Nystagmus
- Albinism is a serious condition.WHY?
- skin ages prematurely
- high incidence of malignant skin tumors.



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# Albinism pathology

Melanocytes are present in the basal layer of the epidermis

-tyrosinase negative albinism

-tyrosinase positive albinism

# management

Sun Avoidance

Total Sunblock

Regular clinical review for early diagnosis of skin tumours.

Children with ocular albinism may have learning difficulties due to poor vision and require specialist ophthalmological supervision.

# Chloasma (Melasma)

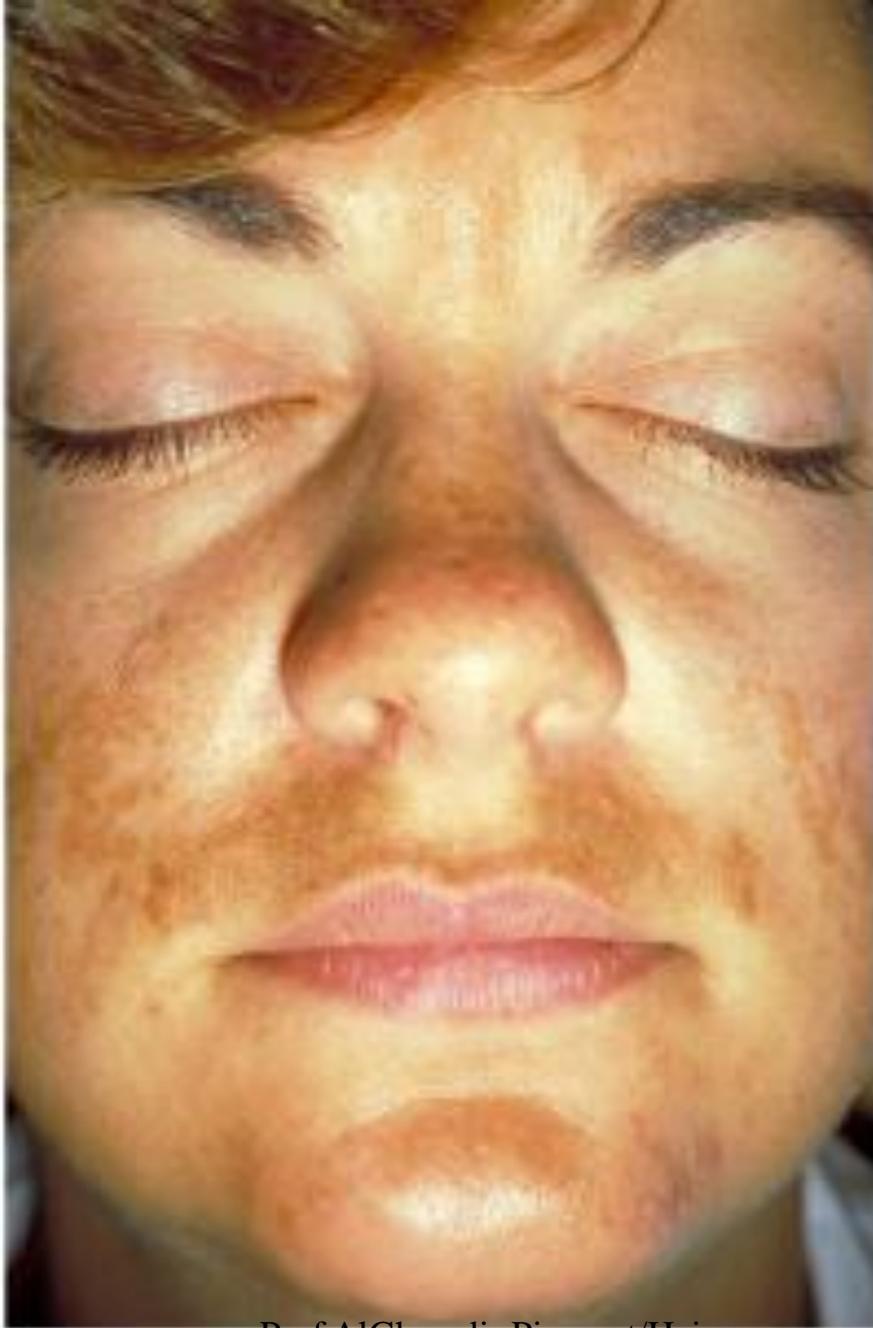
- hormonally stimulated increase in melanogenesis
- mainly affects the face
- seen in pregnant women and those on the contraceptive pill.
- Sunlight and Oral contraceptive will aggravate the situation

## **Treatment:**

Sunscreen

Bleaching creams

Chemical peeling



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*abu bassam*

# HAIR DISORDERS

- HAIR LOSS(alopecia)

alopecia areata

androgenetic alopecia

telogen eff.

anagen eff.

trichotillomania

- HAIR EXCESS

hirsutism

hypertrichosis

# Introduction & definition

- ✓ Alopecia = **HAIR LOSS**
- ✓ Basic hair anatomy and Physiology
- ✓ Hair growth is very dynamic
- ✓ Vellus and Terminal hair

✓ **How many hairs in the body?**

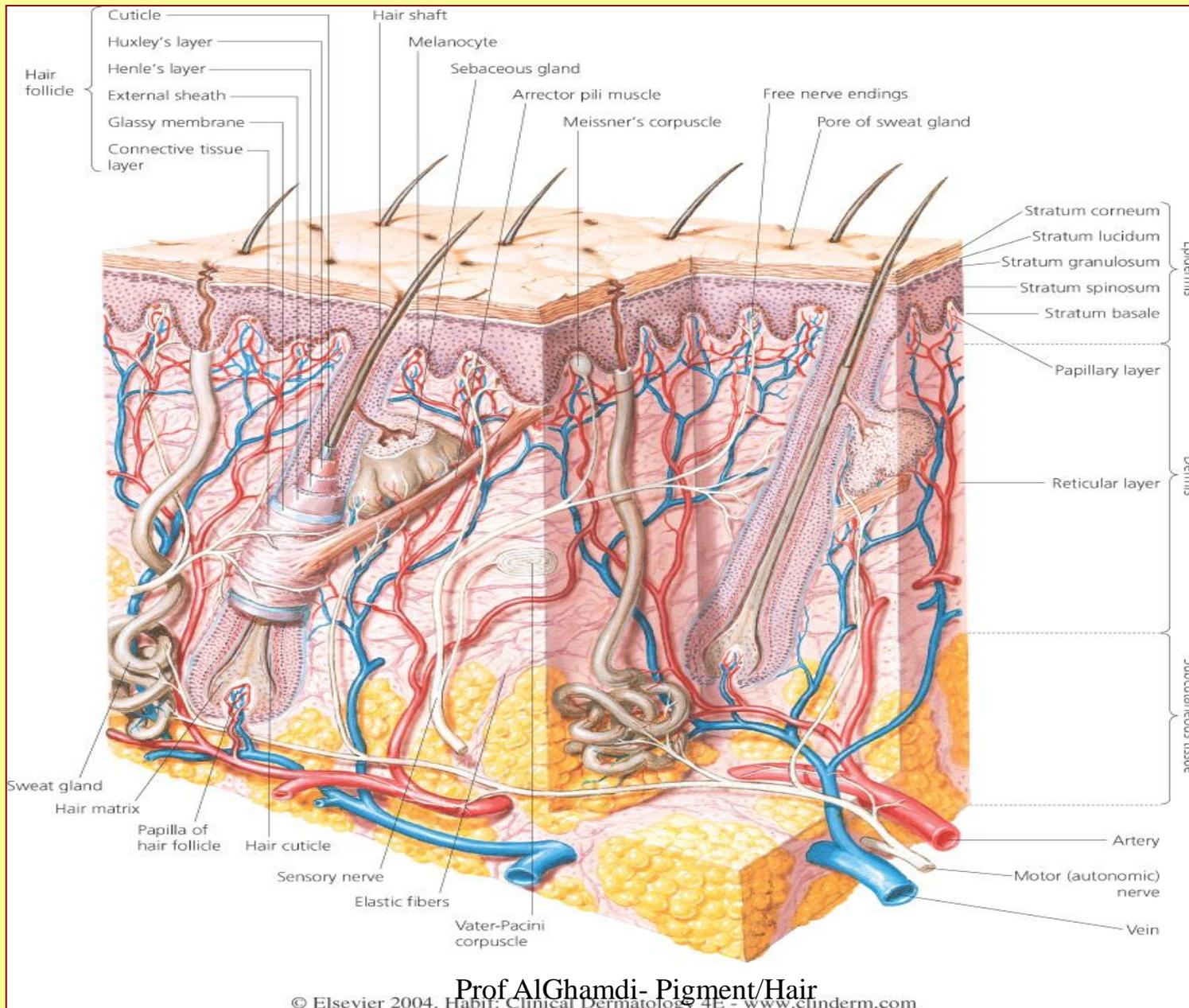
**5 millions hairs;**

**100,000 in the scalp**

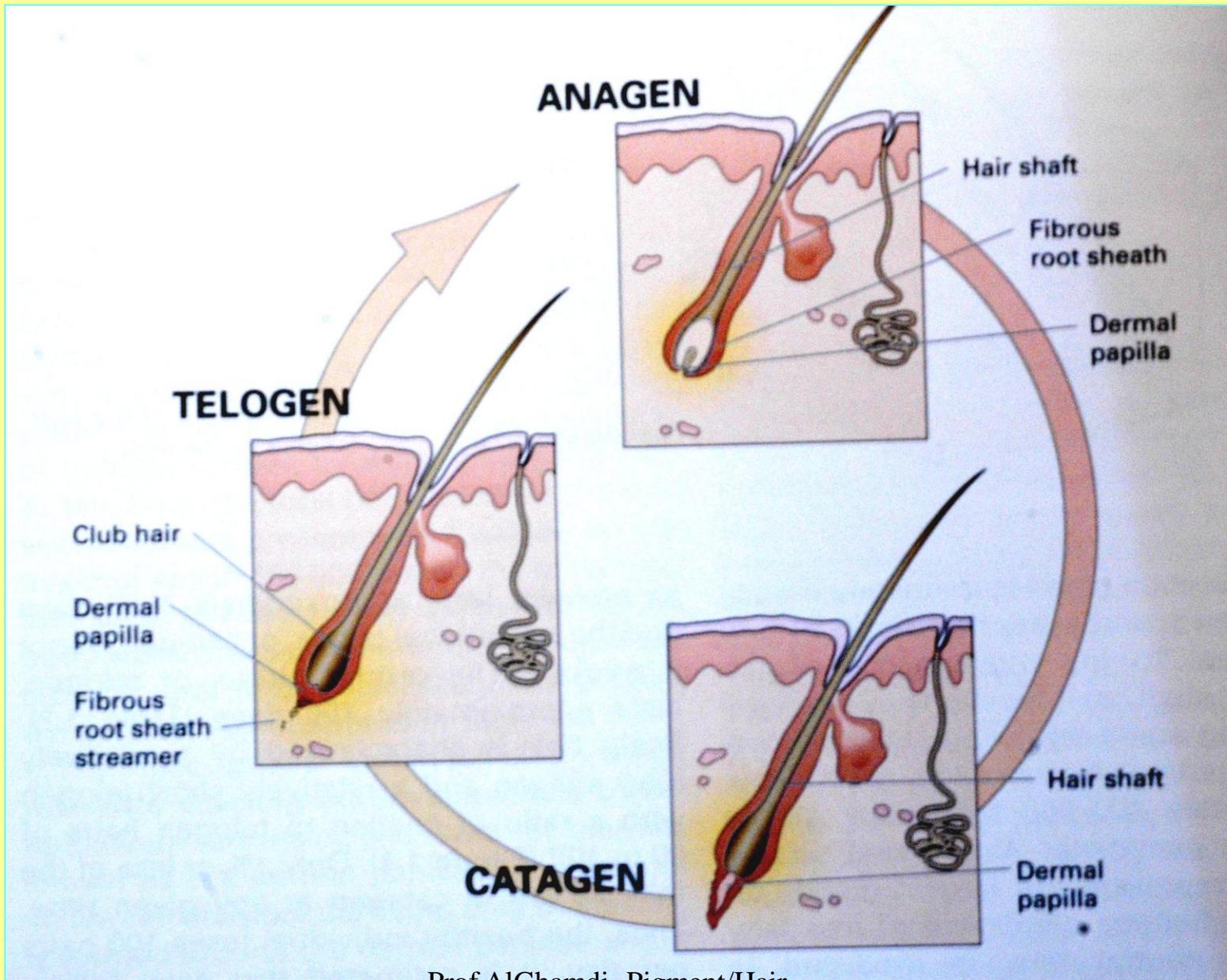
✓ **Growth rate?**

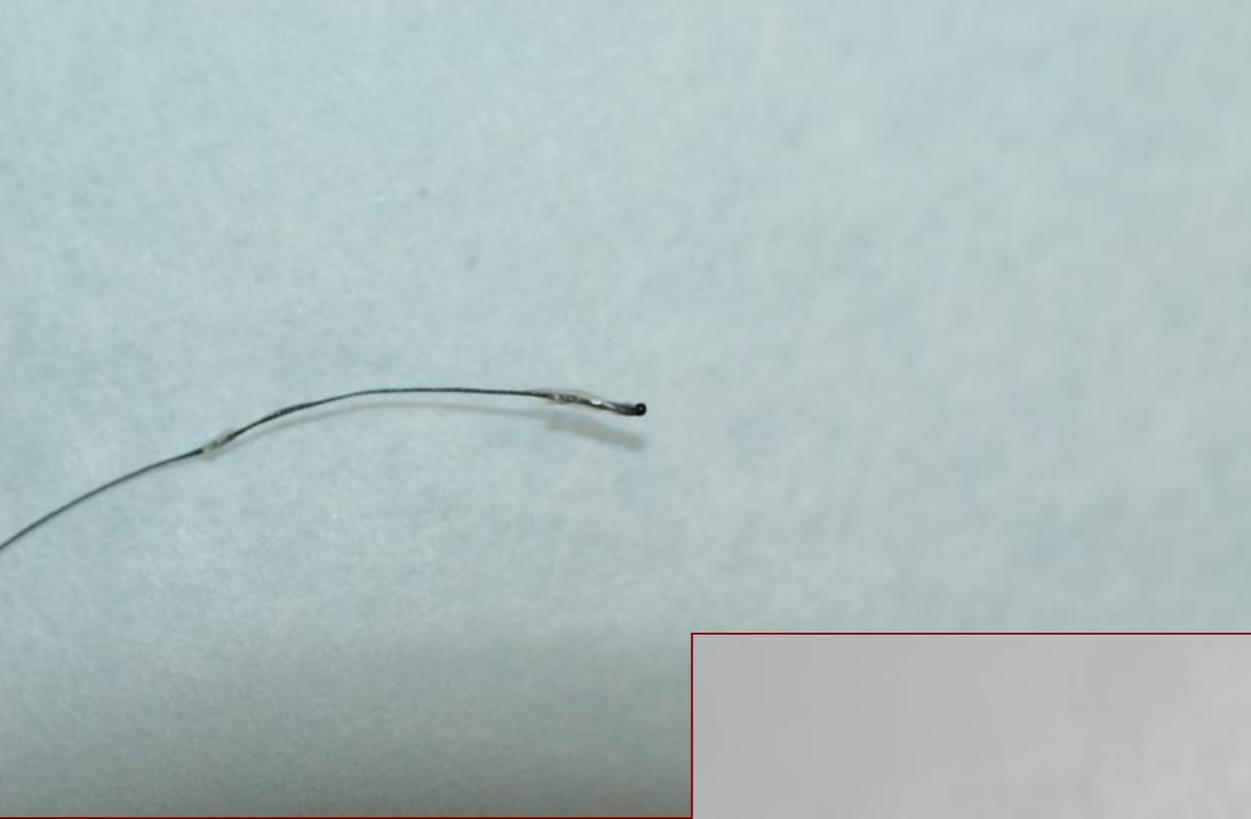
**0.3mm/day for scalp hair**





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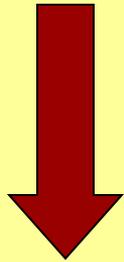


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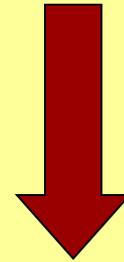


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# Alopecia



**Non-Scarring  
(Reversible)**



**Scarring  
(Irreversible)**



# scarring



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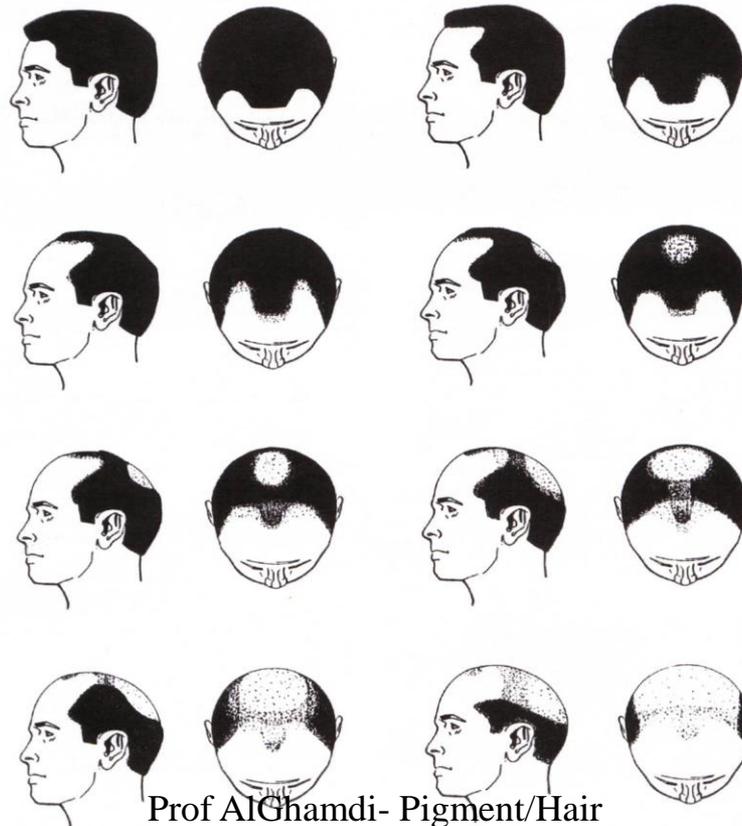
# **Androgenetic Alopecia**

**(Male and Female Pattern Hair Loss)**

# Male Pattern Hair Loss

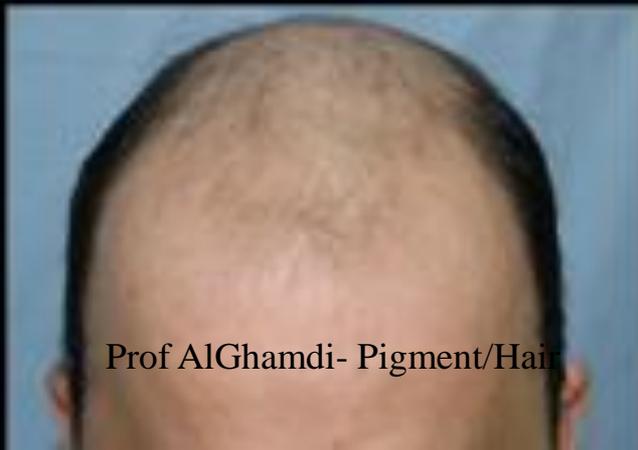
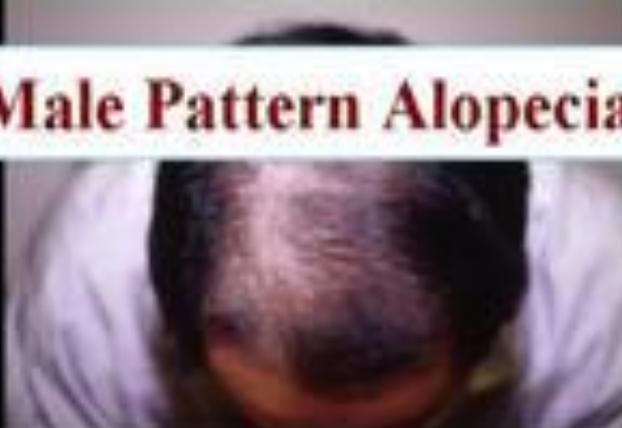
درجات تساقط الشعر

Stages of Hair Loss

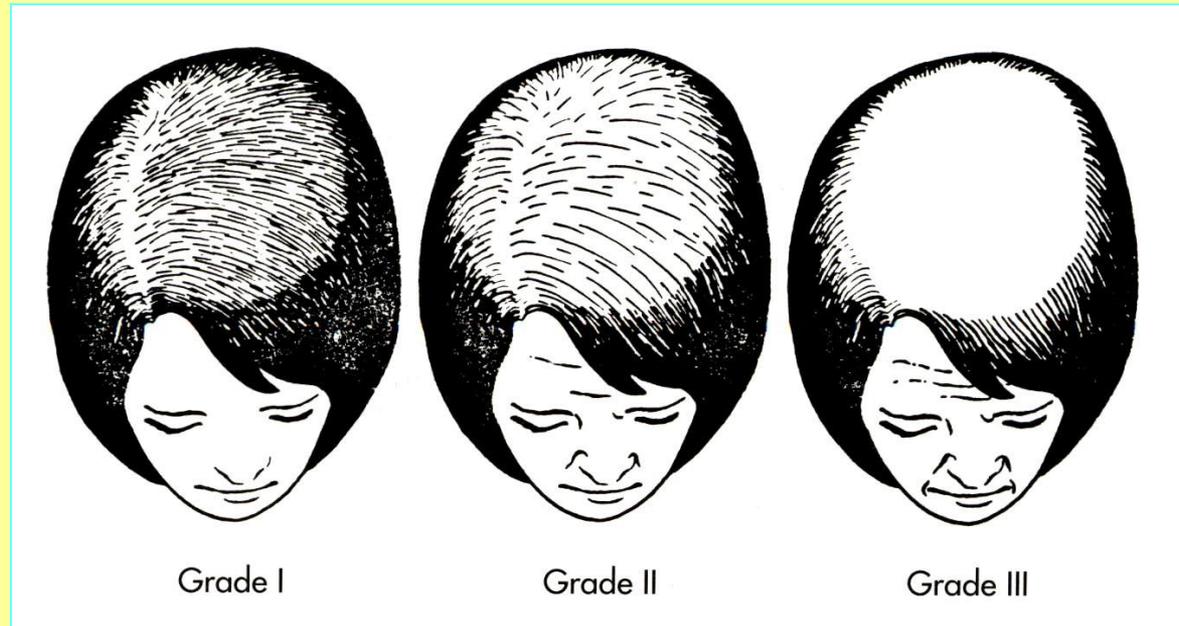


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# Male Pattern Alopecia



# Female Pattern Hair Loss



# Female Pattern Alopecia





**DESPERTE  
O PHD  
PÓS-ALMOÇO  
QUE EXISTE  
EM VOCÊ.**



We love café.

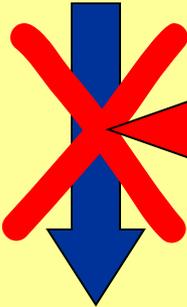
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# **Androgenetic Alopecia**

- ✓ **Androgenetic Alopecia affects up to 50% of males and 40% of females**
- ✓ **Autosomal dominant with variable penetrance**
- ✓ **85% : +ve family history**
- ✓ **Role of androgens in the pathogenesis:**

**5 ALPHA Reductase**

**Systemic Treatment**



**Fenestrade**



**Testosterone**



**DihydroTestosterone  
(Active)**



**Miniaturization of  
Terminal Hairs**

## **Topical Treatment**

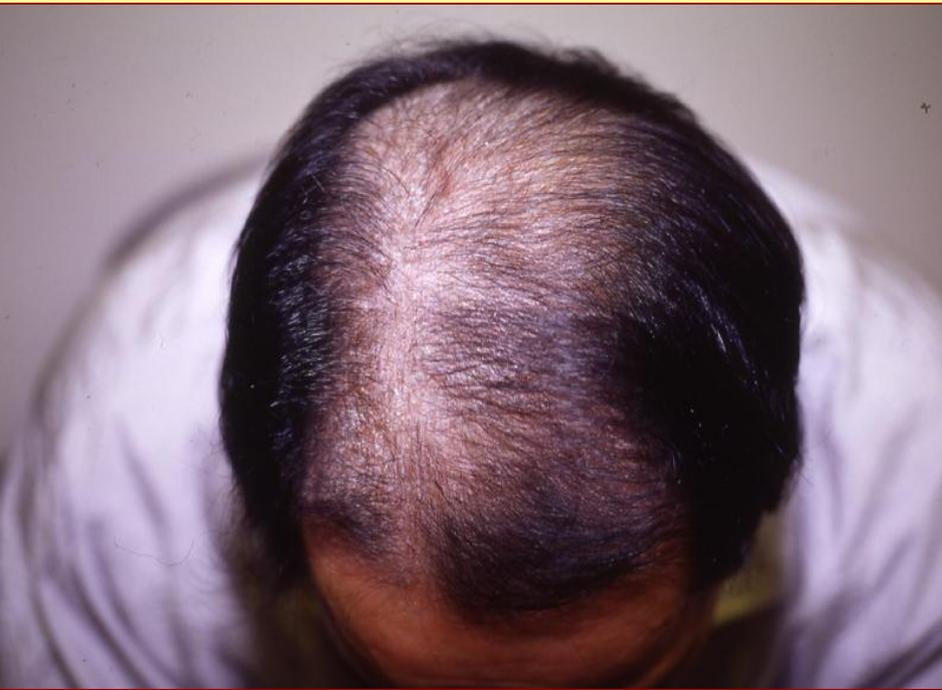
**Minoxidil 2% and 5% Solution**

## **Systemic**

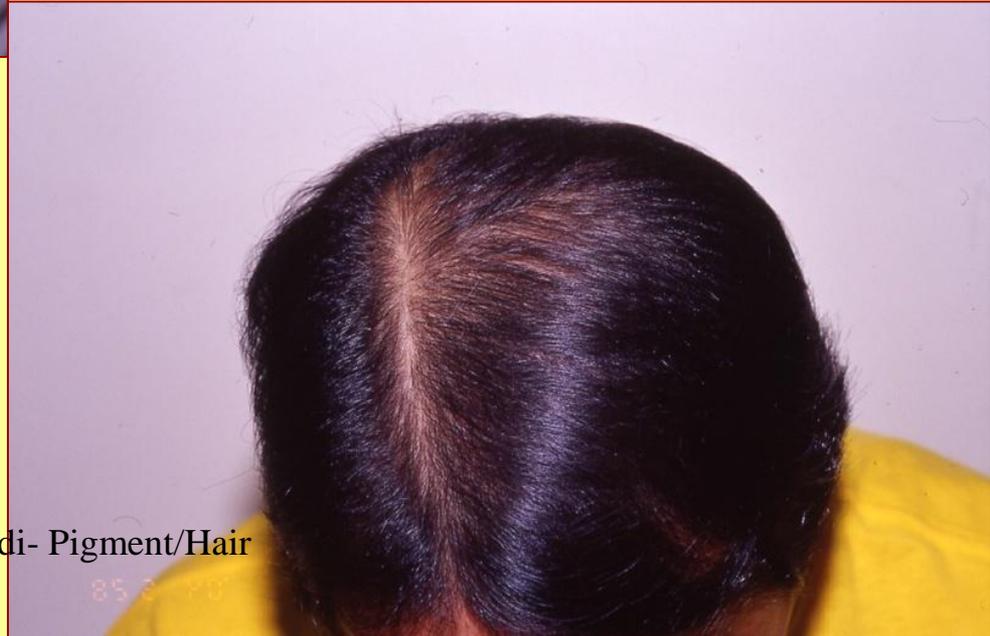
**Finastride 1 mg daily**

## **Surgical**

**Hair transplantation**



# Fenastride





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**Minoxidil 5%**



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# Minoxidil 2% and 5%





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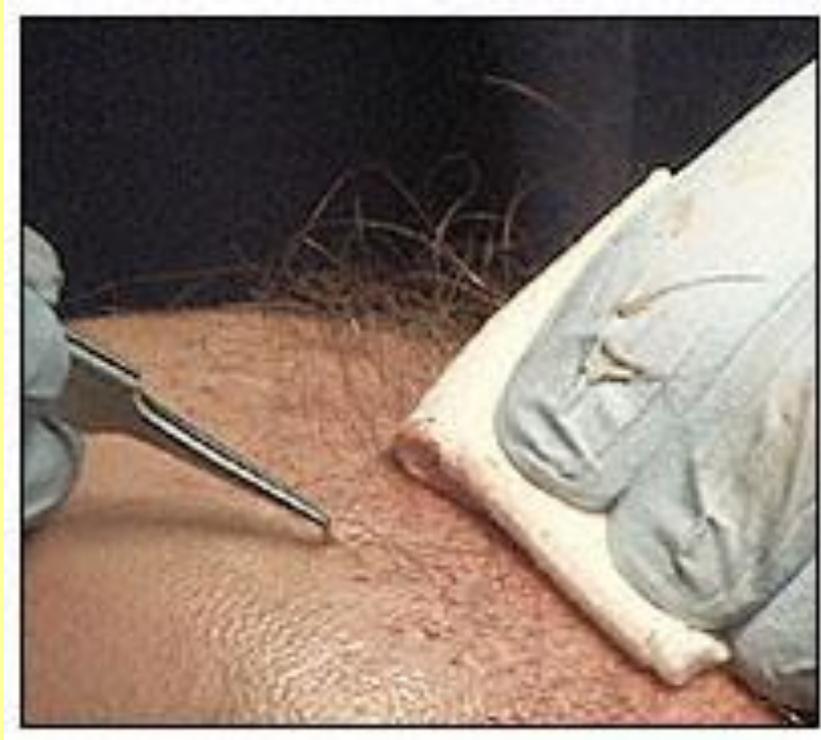
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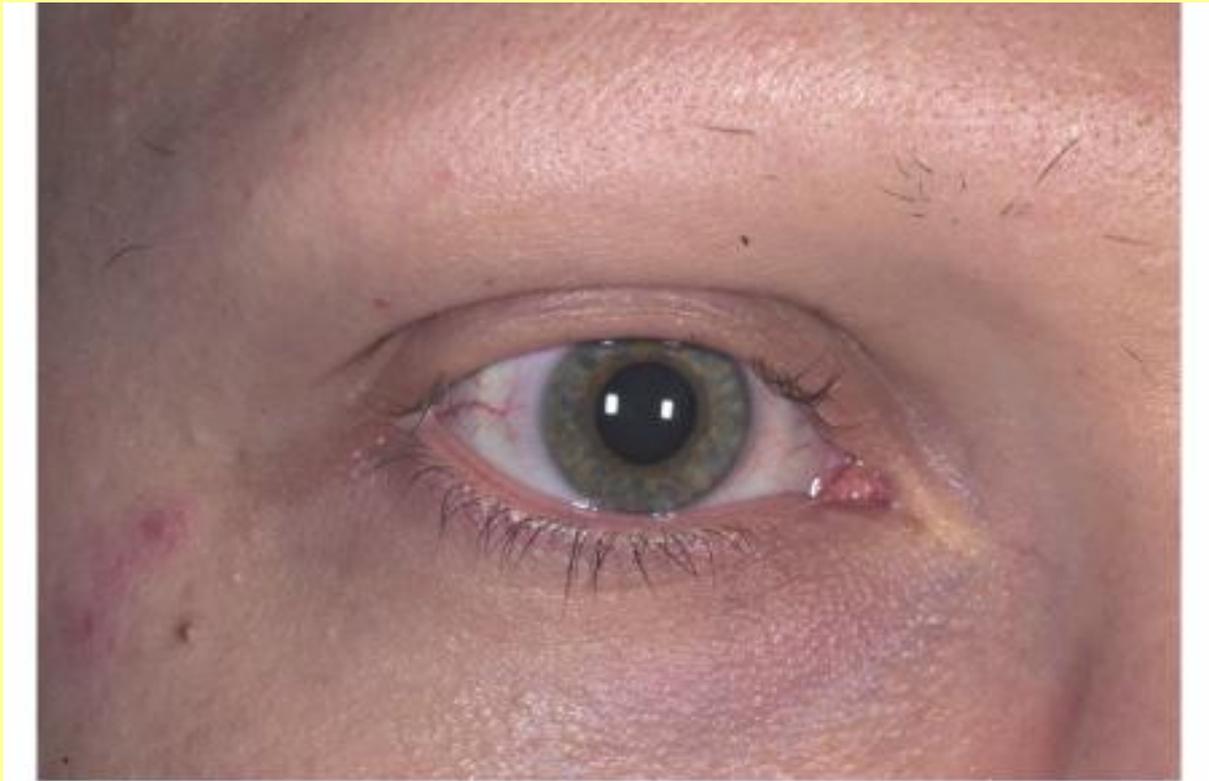


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# **Alopecia Areata**



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# Alopecia Areata

- ✓ **30%: +ve Family history**
- ✓ **High rate of self recovery**
- ✓ **Role of immune system in the pathogenesis**

-Clinical presentation;

Uninflammed skin

-Sites:

-Nails:

-Prognosis: limited vs extensive



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# Treatment

**No treatment**

**Topical steroid**

**5% Topical minoxidil**

**Intralesional Corticosteroids**

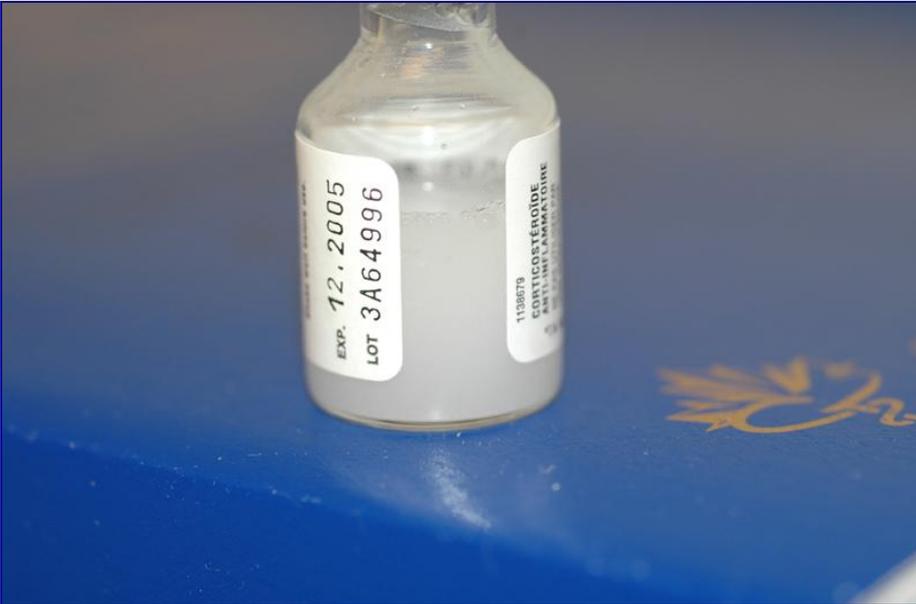
**Skin Sensitizers(Anthralin)**

**Oral steroids**

**Iv steroid pulse therapy**

**Hair transplant ?????**





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# **Skin Sensitizers**

## **Immune modulating Rx**







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# **Anagen effluvium**

- ✓ **Cause: cytotoxic chemotherapy**
- ✓ **Sudden and severe alopecia**
- ✓ **Mostly reversible but not always**

# Telogen effluvium

- ✓ **Common and Non-specific**
- ✓ **Acute or chronic**
- ✓ **causes:**
  - **Anemia**
  - **Postpartum**
  - **postfebrile**
  - **drugs**
  - **Weight loss (crash dieting)**
  - **Acute blood loss**
  - **postsurgical**
  - **Low iron**
  - **Others**
- ✓ **Reversible (but may be become chronic)**



# Trichotillomania

- Obsessive compulsive disorder
- Pulling of hair
- Asymmetrical areas
- Treatment:

Behavioural therapy

SSRI



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# Fungal Scalp Infections(tinea capitis)

Child had contact with animals.

- Scaly or inflammed alopecia or Kerion

- siblings may also be affected.

- Wood's Light

- Scalp scrapings and hairs should be examined microscopically, and cultured to demonstrate the fungus.



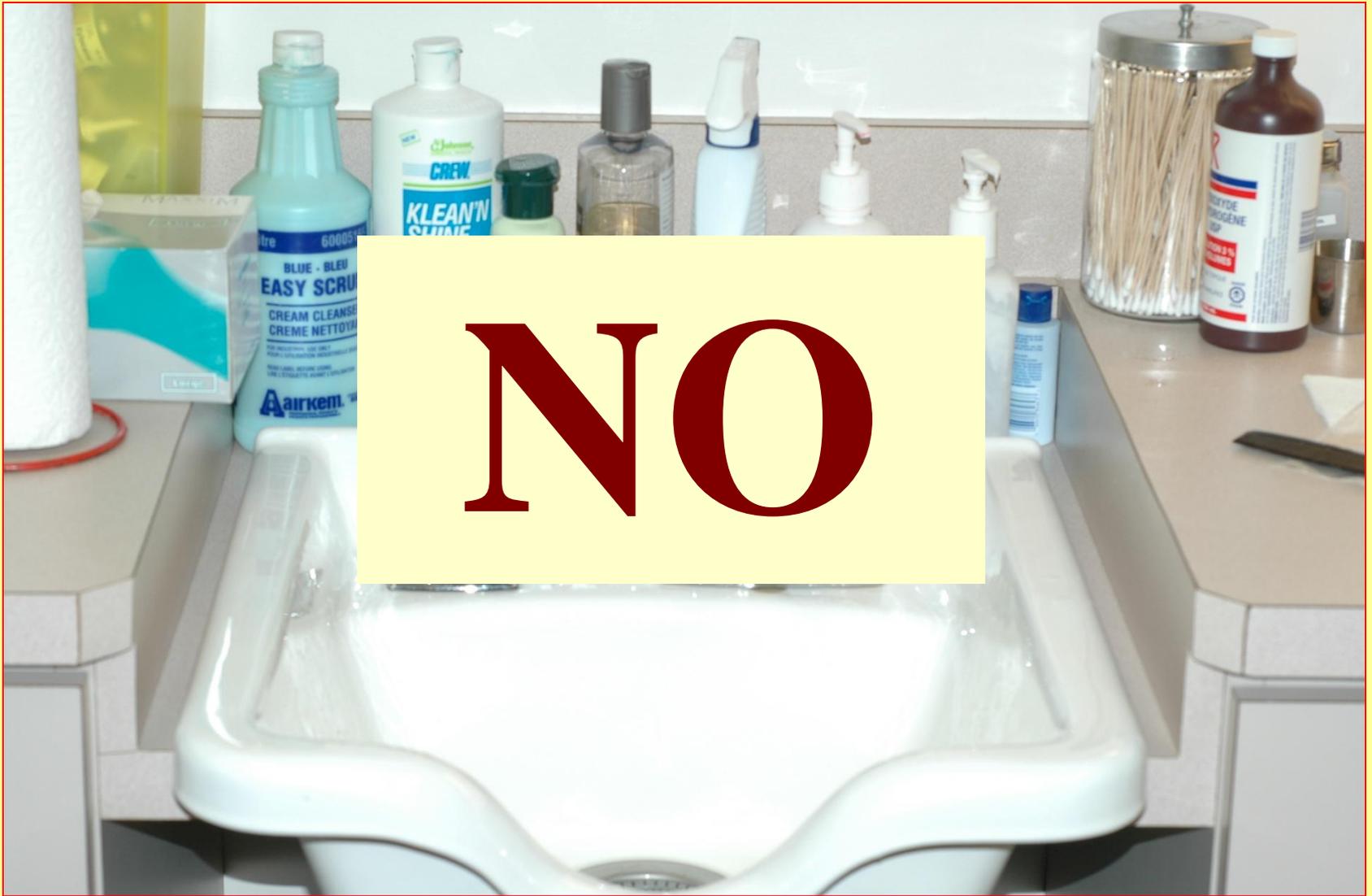


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# Fungal scalp infections

Treatment:

- Oral antifungal( griseofulvin or terbinafine or itraconazole)
- Hair regrow normally unless a kerion has led to scarring.



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# Chronic Discoid lupus

- patchy and scaly alopecia ,
  - follicles plugged by scales and erythematous advancing margin.
  - scarring process => permanent alopecia
- Treatment of early lesions



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# Hirsutism

-Hirsutism is excess growth of androgen-dependent hair in a male pattern

- Hypertrichosis is excess growth of hair in non androgenic pattern.

Seen in both sexes but hirsutism is restricted to females.



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# Hirsutism

In female pt hair grows in the beard area, around the nipples, and in a male pattern on the abdomen.

-Hirsutism can cause great distress to a healthy woman and lead to psychological disturbances with depression.

# Causes

**Adrenal:** Cushing's syndrome, virilizing tumours, congenital adrenal hyperplasia

**Pituitary:** acromegaly

**Ovarian:** Polycystic ovaries, virilizing tumours, gonadal dysgenesis

**Iatrogenic:** due to androgenic drugs

**Idiopathic:** Target or end-organ hypersensitivity( the commonest cause) t

# Investigation

To exclude the underlying, treatable causes

-Although many tests of adrenal, ovarian, and pituitary function are available, the young woman who is menstruating regularly, and has had one or more successful pregnancies, requires little endocrine assessment.

Full endocrine assessment is, however essential in patients with amenorrhoeas, scanty, irregular periods, or with signs of excess androgen stimulation.

Signs of virilization?

# treatment

Laser

Diane



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# Hypertrichosis

-Either congenital or acquired

-Congenital associated with melanocytic naevi, while lumbosacral hypertrichosis (faun tail) should alert the pediatrician or obstetrician to the possibility of spina bifida occulta.

-Acquired drug induced

Endocrine disorder like thyroid dysfunction

Anorexia nervosa

Drugs

# Hypertrichosis

Drug causing hypertrichosis include :  
diazoxide diphenylhydantoin, penicillamine,  
and the psoralens.

If the offending drug is withdrawn, the  
excessive hair growth will cease.

You see!  
I have a nice  
hair!!

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