Androgenic alopecia
Alopecia: hair loss

Androgenetic alopecia is a common form of hair loss in both men and women. In men, this condition is also known as male-pattern baldness.

Causes:

▪ Familial:

* Although the exact mode of inheritance has not yet been clarified. The idea of a single autosomal dominant gene, with reduced penetrance in women, now seems less likely than a polygenic type of inheritance. Men seem to have a stronger family history of the disorder than females with pattern hair loss.

▪ Androgenetic alopecia is linked to high levels of dihydrotestosterone (DHT).

- Testosterone $\text{5}\alpha$-reductase DHT

• In female-pattern hair loss, there may be an increased sensitivity to circulating androgen, as androgen levels are usually within normal limits.
DHT shrinks hair follicles

DHT may contribute to the shortening of the growth phase of hair follicles, causing them to shrink until there are fewer visible hairs left on the scalp.
Presentation & Clinical Course

1-In men Hair is lost in a well-defined pattern. the common pattern is the loss of hair, first from the temples, and then from the crown. Hair loss is relentless, tending to follow the family pattern with some losing hair quickly and others more slowly.

2-In women the hair loss is more of Diffuse Type, particularly over the crown & it tends to progress slowly.

*In bald areas, terminal hairs are replaced by finer vellus ones.
Complications:

- **Anxiety** which rarely progress to a *monosymptomatic hypochondriasis*.
  - See next slide

- **Bald scalps** *burn easily in the sun*, and may develop multiple *actinic keratoses*.
  - Sun-induced scaly or hyperkeratotic lesion, which has the potential to become malignant

- **Bald men** *Have greater risk to have a heart attack and prostate cancer* than those with a full head of hair.
DDX & Investigations

- The diagnosis is usually obvious in men, but other causes of diffuse hair loss have to be considered in women. (Table 13.2)

- Hormonal testing is usually not needed unless symptoms or signs of androgen excess are present such as hirsutism, severe unresponsive acne or virilization.
Treatment

1. **Scalp surgery, hair transplants** and wigs.
2. Topical application of **Minoxidil lotion**:
   *May slow early hair loss and even stimulate new growth of hair* but the results are not dramatic.
   *Small and recently acquired patches respond best.
   **When minoxidil treatment stops, the new hairs fall out after about 3 months.**
3. Some women with diffuse type of androgenetic alopecia may benefit from **suppressing ovarian androgen production with**: oral contraceptives or an antiandrogen such as **spironolactone**.
4. **Finasteride** (Propecia), human type II 5α-reductase inhibitor, reduces serum and scalp skin levels of DHT in balding men. At the dosage of 1 mg/day, it may increase hair counts and so **lead to a noticeable improvement** in both frontal and vertex hair thinning. However, the beneficial effects slowly reverse once treatment has stopped. This treatment is **not indicated in women or children**.
   **Side effects are rare:**
   - decreased libido & erectile dysfunction.
   - altered prostate-specific antigen levels.
References

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