

# Hirsutism

Hirsutism refers to excessive hair growth in women in areas typically associated with male-pattern hair growth, such as the face, chest, and abdomen. It is a common concern, affecting a significant proportion of women worldwide, with studies suggesting that between 25% and 85% of middle-aged women engage in hair removal practices due to unwanted facial and body hair. However, hirsutism is clinically defined when the hair growth is excessive relative to typical female patterns. The condition usually arises due to an imbalance in androgenic hormones, though it may be linked to both genetic and hormonal factors.

## Differentiation between Hirsutism and Hypertrichosis

It is essential to differentiate between hirsutism and hypertrichosis, as these terms are often confused. Hirsutism specifically refers to excessive hair growth in androgen-dependent areas, such as the face, chest, and abdomen, in women. In contrast, hypertrichosis is characterized by an excessive amount of hair in normal locations, such as on the limbs or back, regardless of androgenic influence. Hypertrichosis can affect both men and women and may result from genetic factors, certain medications, or underlying conditions, but it does not typically have the same hormonal origins as hirsutism.

## Etiology of Hirsutism

Hirsutism is most commonly caused by hyperandrogenism, a condition characterized by elevated levels of male hormones, or androgens, in women. Androgens, particularly testosterone and androstenedione, are produced by the ovaries, adrenal glands, and, to a lesser extent, other tissues such as the skin. These hormones regulate hair follicle activity, and their overproduction or increased sensitivity of the skin's androgen receptors can result in hirsutism. The pathophysiology behind this hormonal imbalance can arise from several underlying conditions:

- **Polycystic Ovary Syndrome (PCOS):** This is the most common cause of hirsutism, affecting approximately 5-10% of women. PCOS is characterized by ovulatory dysfunction, androgen excess, and cystic changes in the ovaries. Women with PCOS may experience irregular menstrual cycles, anovulation, and elevated levels of testosterone, which contribute to the development of hirsutism.
- **Congenital Adrenal Hyperplasia (CAH):** This genetic condition leads to enzyme deficiencies in the adrenal glands, resulting in an overproduction of androgens. Women with CAH may develop early onset hirsutism along with other symptoms, such as abnormal menstrual cycles.

- **Cushing's Syndrome:** Overproduction of cortisol by the adrenal glands can lead to an imbalance in androgenic hormones, contributing to hirsutism. This condition is usually associated with other signs, such as central obesity and skin changes.
- **Other Causes:** Less common causes of hirsutism include tumors that secrete androgens (e.g., ovarian or adrenal tumors), hyperprolactinemia, and certain medications, such as anabolic steroids or testosterone therapy.

### Clinical Presentation and Diagnosis

Hirsutism typically begins during puberty and can worsen with age. Women may notice excessive hair growth on the face, particularly along the upper lip, chin, and jawline, as well as on the chest, abdomen, and back. However, the severity and onset of hirsutism can vary based on the underlying cause.

The diagnostic approach to hirsutism involves a thorough clinical assessment, including a history of the onset and progression of symptoms, as well as an evaluation for associated conditions, such as menstrual irregularities or acne. To determine the underlying cause, laboratory tests are essential. Common tests include:

- **Serum testosterone levels:** Elevated testosterone levels are a hallmark of hyperandrogenism.
- **Dehydroepiandrosterone sulfate (DHEAS):** This test helps assess adrenal androgen production.
- **17-hydroxyprogesterone (17-OHP):** Elevated levels can indicate congenital adrenal hyperplasia.
- **Thyroid function tests (T4, TSH):** To rule out thyroid dysfunction.
- **Prolactin levels:** To assess for hyperprolactinemia.

In some cases, imaging studies such as pelvic ultrasound may be used to evaluate ovarian morphology in suspected PCOS or to detect adrenal tumors.

### Treatment Options for Hirsutism

Management of hirsutism involves addressing both the underlying hormonal imbalance and the cosmetic concerns associated with excessive hair growth. Treatment strategies can be broadly categorized into pharmacologic and procedural options.

- **Pharmacologic Treatments:**
  - **Oral Contraceptives:** Combined oral contraceptives (COCs) are often the first-line treatment for hirsutism, particularly in cases related to PCOS. COCs suppress ovarian androgen production and increase the levels of sex hormone-binding globulin (SHBG), which in turn reduces free testosterone levels.
  - **Anti-androgens:** Medications such as spironolactone and flutamide block androgen receptors and reduce the effects of excess androgens on hair follicles. These are typically used in conjunction with oral contraceptives for enhanced efficacy.

- **Topical Medications:** Vaniqa (eflornithine) is a prescription topical cream that inhibits hair growth by blocking the enzyme ornithine decarboxylase, which is involved in hair follicle development. It has shown effectiveness for facial hirsutism with minimal side effects.
- **Procedural Treatments:**
  - **Laser Hair Removal:** This is an effective, long-term option for removing unwanted hair. Laser hair removal works by targeting the melanin in hair follicles, resulting in the destruction of the hair follicle. It is particularly useful for darker, coarse hair and is often combined with other therapies.
  - **Electrolysis:** This method uses an electric current to destroy individual hair follicles. Electrolysis is suitable for smaller areas of hair growth and may require multiple sessions to achieve desired results.
  - **Waxing and Depilatory Creams:** These temporary methods may be used for women who seek immediate cosmetic results, although they require repeated sessions and do not address the underlying hormonal issue.

## Conclusion

Hirsutism is a common yet distressing condition for many women, often resulting from an underlying hormonal imbalance, particularly excess androgen production or increased sensitivity to androgens. The most frequent causes include PCOS, CAH, and adrenal or ovarian tumors. Management of hirsutism involves addressing both the cosmetic symptoms and underlying hormonal abnormalities, with treatments ranging from pharmacological interventions like oral contraceptives and anti-androgens to procedural options like laser hair removal and electrolysis. Early diagnosis and appropriate treatment can greatly improve the quality of life for women affected by this condition.

## References

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