

Causes of Male Pattern Baldness: Diagnosis and Treatment

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DESCRIPTION

Male pattern baldness, also known as androgenetic alopecia, is a common form of hair loss that affects approximately 50% of men over the age of 50. It is characterized by a progressive thinning of the hair on the scalp, typically beginning at the crown and temples, and gradually spreading to the entire head. Male pattern baldness is caused by a combination of genetic and hormonal factors and can have a significant impact on a man's self-esteem and quality of life.

Causes of male pattern baldness

Male pattern baldness is primarily caused by genetic factors. It is inherited from either parent or both parents, and the genes responsible for it are believed to be located on the X chromosome. This means that men are more likely to inherit male pattern baldness from their maternal grandfather than from their paternal grandfather. Male pattern baldness is also linked to hormonal factors [1]. Testosterone is converted into Dihydrotestosterone (DHT) by the enzyme 5-alpha reductase. DHT is responsible for hair loss in male pattern baldness by shrinking hair follicles and shortening the growth phase of the hair cycle [2].

Symptoms of male pattern baldness

The symptoms of male pattern baldness typically begin with a receding hairline at the temples, which eventually forms a characteristic "M" shape. The hair on the crown of the head also begins to thin and eventually forms a bald spot [3]. Over time, the bald spot and receding hairline merge, leaving a horseshoe-shaped ring of hair around the sides and back of the head. In some cases, male pattern baldness can also affect the hair on the body, including the beard and chest hair [4]. The hair that remains on the scalp also becomes thinner and finer, making it difficult to style and giving the appearance of a "thin" head of hair [5].

Diagnosis of male pattern baldness

The diagnosis of male pattern baldness is typically made by a physical

examination of the scalp and hair. A doctor or dermatologist will examine the pattern of hair loss, the quality of the remaining hair, and the presence of any underlying scalp conditions. In some cases, a scalp biopsy may be performed to confirm the diagnosis of male pattern baldness [6]. During a scalp biopsy, a small piece of scalp tissue is removed and examined under a microscope to determine the cause of hair loss.

Treatment of male pattern baldness

There is no known cure for male pattern baldness, but there are several treatments available that can slow or stop the progression of hair loss and promote new hair growth [7,8].

Medications

The most common medications used to treat male pattern baldness are minoxidil and finasteride. Minoxidil is a topical solution that is applied directly to the scalp and is believed to increase blood flow to the hair follicles, promoting hair growth. Finasteride is an oral medication that blocks the conversion of testosterone to DHT, reducing the levels of DHT in the body and preventing hair loss [9,10].

Hair transplantation

Hair transplantation is a surgical procedure that involves removing hair follicles from a donor site on the scalp (usually the back or sides of the head) and transplanting them to the bald or thinning areas of the scalp. This procedure is typically reserved for men with advanced hair loss and can be costly and time-consuming [11].

Scalp micropigmentation

Scalp micropigmentation is a non-surgical procedure that involves the application of pigments to the scalp to create the appearance of a closely shaved head of hair. This procedure is typically used to create the appearance of a fuller head of hair in men with advanced hair loss who do not wish to undergo hair transplantation [12].

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