

MALE HORMONE STIMULATION IS A PREREQUISITE AND INCITANT IN COMMON BALDNESS¹

JAMES B. HAMILTON, PH.D.

New Haven

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The author reported on the condition of the pilosebaceous apparatus in boys, and eunuchoid and castrate men. These individuals do not develop seborrhea, acne vulgaris, premature alopecia, or common baldness (1, 2). Quantitative determinations were made of urinary estrogenic, androgenic and gonadotropic substances before, during and after treatment with male hormone. Treatment was usually carried out by injections of testosterone propionate, usually dissolved 20 mgm. in 1.0 cc. of peanut oil. As a control, injections of the same amount of peanut oil were given. Methyl testosterone was occasionally substituted by the oral route, or pellets of testosterone propionate were planted subcutaneously.

A majority of all patients so treated developed first seborrhea, comedones, and later acne vulgaris, which condition simulated the same ones seen in sexually normal individuals. Cessation of therapy usually resulted in a striking decrease in seborrhea and the signs of acne vulgaris, both of which increased in severity on resumption of treatment. Such signs were never observed after the injection of peanut oil alone. Developing acne pustules which had undergone retrogression redeveloped signs of inflammation if treatment was soon reinstated.

All men who failed to mature sexually had little or no dandruff and did not become bald. Common baldness occurs only in sexually mature individuals of families the members of which tend to become bald. Androgenic therapy induced baldness in eunuchoid and castrate members of such families only. Cessation of treatment, as well as castration of normal men becoming bald, prevents further enlargement of bald areas, but apparently does not promote general regrowth of hair.

The author concludes that the predisposing factors, including congenital, are ineffective in production of seborrhea, acne vulgaris and premature alopecia in the absence of adequate gonadal hormone substance. Androgens cause seborrhea, and acne may result. The presence of acne bears no direct relation to the levels of estrogenic and gonadotropic substances, and needs no postulation of hypopituitarism and hypogonadism. Premature alopecia is produced by daily intramuscular injections of 20 to 30 mgm. of testosterone propionate, a dosage estimated to provide androgenic stimulation roughly equivalent to that in normal adult men. There is no evidence that premature alopecia is caused by excessive quantities or unusual types of androgens.

The normal androgenic secretion of the suprarenal gland does not incite bald-

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ness. However, in women with arrhenoblastoma or suprarenal virilism premature alopecia occurs, but ceases to progress when the abnormal masculinization ends.

No means of therapy is suggested for decreasing androgenic stimulation in sexually normal individuals.

REFERENCES

1. HAMILTON, J. B.: Acne: male hormone substance: a prime factor in acne. *J. Clin. Endocrin.*, **1**: 570 (July) 1941.
2. HAMILTON, J. B.: Male hormone stimulation is prerequisite and an incitant in common baldness. *Am. J. Anat.*, **71**: 451 (Nov.) 1942.