



HAIR DISORDERS

## SOCIAL SELECTION FAVORS OFFSPRING PRONE TO THE DEVELOPMENT OF ANDROGENETIC ALOPECIA

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**Background:** In recent years, dermatologists have observed an increase in incidence of male androgenetic alopecia (AGA). This phenomenon has no apparent explanation. Due to the strong genetic inheritance component of AGA, a social or environmental factor that favours inheritance of the genes that increase the risk of developing AGA is suspected.

**Observation:** To date, the strongest predictor of AGA in men has been the length of the CAG repeat located on the androgen receptor gene (AR gene). The same genetic variant in women is associated with a phenotype exhibiting ovulation at a later age, higher antral follicle count and lower risk for premature ovarian failure. This led us to theorize that due to the social selection to conceive later in life, women carriers of the short CAG repeat in the AR gene are more likely to conceive later in life and thus favor an offspring expressing AGA.

**Key Message:** In the past three decades, women in first world societies are delaying parenthood to a later age. Attempting to conceive at a later age is associated with childlessness due to declined fertility and increased risk of fetal death. Thus, social selection to reproduce later in life favors females that have a higher chance of late-age conception, i.e., carriers of a short CAG repeat allele in the AR gene. Consequently, we put forth the theory that social selection for later conception favors offspring prone to the development of AGA.

