



HAIR DISORDERS

EXPRESSION AND CLINICAL SIGNIFICANCE OF 5-ALPHA-REDUCTASE ISOENZYME MRNA IN HAIR FOLLICLES OF MALE ANDROGENETIC ALOPECIA

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Objective: To investigate the expression and clinical significance of 5- alpha-reductase mRNA in the hair follicles of male androgenetic alopecia.

Methods: Total RNA from hair follicles of 63 male androgenetic alopecia patients and 30 healthy controls was extracted, followed by reverse transcription. Expression levels of 5-alpha-reductase isoform mRNA, I-type 5-alpha-reduced (SRD5A1), II-type 5-alpha-reductase (SRD5A2), and III-type 5-alpha-reductase (SRD5A3) were assessed by fluorescence quantitative polymerase chain reaction (PCR). Therapeutic efficacy was evaluated following treatments with finasteride (1 mg daily) for 6 months.

Results: The expression levels of these three types of 5-alpha-reductase mRNA were comparable in hair follicles obtained by pulling hair out and by follicular unit extraction (FUE)($P>0.05$). Expression levels of SRD5A3 mRNA were higher than that of SRD5A1 and SRD5A2 mRNA. Expression levels of these three mRNA correlated positively with each other ($P<0.05$).

Conclusions: Expression of 5-alpha-reductase mRNA can be detected in hair follicles obtained by pulling hair out. SRD5A3 is present in the inner and outer root sheaths of hair follicles, and its expression levels are higher than that of SRD5A1 and SRD5A2. Expression levels of these three SRD5A mRNA correlate positively.

