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JOURNAL ARTICLE

Serum androgens: associations with prostate cancer risk and hair patterning

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Cancer of the prostate is the leading cancer among American men, yet few risk factors have been established. Hair growth and development are influenced by androgens, and it has long been suspected that prostate cancer also is responsive to these hormones. A blinded, case-control study was undertaken to determine if hair patterning is associated with risk of prostate cancer, as well as specific hormonal profiles. The study accrued 315 male subjects who were stratified with regard to age, race, and case-control status (159 prostate cancer cases/156 controls). Hair-patterning classification and serum levels of total and free testosterone (T), sex hormone binding globulin, and dihydrotestosterone (DHT) were performed. Data indicate that hair patterning did not differ between prostate cancer cases and controls; however, significant hormonal differences were detected between the two groups. Free T was greater among cases than in controls (16.4 +/- 6.1 vs. 14.9 +/- 4.8 pg/ml, P = 0.02). Conversely, DHT-related ratios were greater among controls (P = 0.03 for DHT/T and P = 0.01 for DHT/free T). Several strong associations also were found between hormone levels and hair patterning. Men with vertex and frontal baldness had higher levels of free T (16.5 +/- 5.5 and 16.2 +/- 8.0 pg/ml, respectively) when compared to men with either little or no hair loss (14.8 +/- 4.7 pg/ml) (P = 0.01). Data suggest that increased levels of free T may be a risk factor for prostatic carcinoma. In addition, although no differences in hair patterning were detected between cases and controls within this older population, further research (i.e., prospective trials or case-control studies among younger men) may be necessary to determine if hair patterning serves as a viable biomarker for this disease, especially given the strong association between free T levels and baldness.

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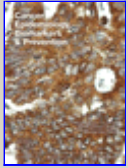
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