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Letter to the Editor

Might early baldness protect from prostate cancer by increasing skin exposure to ultraviolet radiation?

In a recent issue of *Cancer Epidemiology*, Wright et al. [1] reported that early-onset male pattern baldness (MPB) is linked to reduced risk of prostate cancer (PCa). Relationship between MPB and PCa has been a controversial issue. In most studies MPB was shown to be a risk factor in PCa and such findings have been explained by the similarity of mechanism in the development of those two conditions. The inverse relationship between MPB and risk of PCa found by Wright et al. [1] is difficult to explain. The authors suggest two specific mechanisms linking low level of MPB and higher incidence of PCa. First they cite Hayes et al. [2] who found that carriers of a specific allelic variant of the 5 α -reductase type II gene (A49T A) were at higher risk of prostate cancer and lower risk of vertex and frontal balding. Although the results of Hayes et al. [2] are congruent with those of Wright et al. [1] they do not offer an explanation, because that variant is rare. Secondly, Wright et al. [1] noted that the 5 α -reductase inhibitor "not only lowers DHT but also raises testosterone concentrations 7–10-fold". Although it is true that testosterone accumulates in the prostate if not converted to DHT, reductase inhibitors are effective in the treatment of PCa as well as MPB because DHT and not testosterone is the key factor in the development of both conditions.

The authors claim that if their "findings [...] are confirmed, the easily identifiable phenotypic trait of early-onset MBP may assist in the identification of men at lower risk for subsequent PCa." However, even if their findings are subsequently confirmed, the possibility of indirect links between the two processes is left open until the mechanism behind the development of MPB and PCa is elucidated. One such link could be that male pattern baldness exposes a relatively large skin area to sunlight, thus MPB may provide some protection against prostate cancer through the elevation of UV absorbance and enhanced production of vitamin D [3]. According to this hypothesis male pattern baldness through

similar physiological mechanism is a risk factor for PCa, however, enhanced UV absorbance as a consequence of baldness can reduce the risk of PCa. Controversies in the role of MPB being a risk or protective factor in PCa thus might be explained by the fact that few studies controlled for actual sun absorbance by the subjects with or without baldness. If possible, a follow-up study by Wright et al. including data on sunbath habits, sunburn history, outdoor vs. indoor occupation of the subjects with or without baldness thus would be interesting and important.

Conflict of interest statement

Author declares that he has no proprietary, financial, professional or other personal interest of any nature or kind in any product, service or company that could be construed as influencing the position presented in, or the review of, the manuscript.

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