Variant of Vitamin D Receptor Gene Linked to Melanoma Risk

Atlanta 2008/09/22 -A new analysis indicates an association between a gene involved in vitamin D metabolism and skin cancer. Published in the November 1, 2008 issue of CANCER, a peer-reviewed journal of the American Cancer Society, the study suggests that individuals with certain variants in a vitamin D-related gene, called BsmI, may be at an increased risk of developing melanoma.

Research has shown that vitamin D in the body has significant protective effects against the development of cancer because it regulates cell growth, cell differentiation and cell death. This is supported by evidence that sun exposure, which helps in the production of vitamin D, can have anticancer effects.

Vitamin D exerts its effects by binding to a receptor located within cells. Because there are genetic differences in this vitamin D receptor among individuals, investigators suspect that different people have different levels of vitamin D activity within their bodies. Therefore, some individuals may naturally be able to achieve more vitamin D-related protection against cancer than others. However, study results on this topic have been conflicting, and no review of the available data has been performed to date.

To address this issue, Dr. Simone Mocellin and Dr. Donato Nitti of the University of Padova in Italy examined the existing research investigating the association between common variants in the vitamin D receptor and the risk of melanoma. The analysis revealed a significant association between melanoma risk and the BsmI gene.

The researchers note that additional research is needed to validate this link, and called for well-designed, population-based, large, multi-institutional studies to test whether any vitamin D receptor variant is independently associated with melanoma risk.

“These findings prompt further investigation on this subject and indirectly support the hypothesis that sun exposure might have an anti-melanoma effect through activation of the vitamin D system,” the authors wrote.

Article: “Vitamin D Receptor Polymorphisms and the Risk of Cutaneous Melanoma: A Systematic Review and Meta-Analysis.” Simone Mocellin and Donato Nitti. CANCER; Published Online: September 22, 2008 (DOI: 10.1002/cncr.23867); Print Issue Date: November 1, 2008.

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