

Cancer can be prevented by having a healthy vitamin D level.

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Abstract

According to a recent assessment of the literature, having enough vitamin D levels helps both prevent cancer and improve the prognosis for a number of tumours. Vitamin D has strong anti-cancer properties that are particularly noticeable in the prevention and treatment of blood and colon cancers. Additionally, a lower risk of cancer has been associated with increased vitamin D response. The necessity for vitamin D supplements depends on an individual's vitamin D responsiveness.

Keywords: Vitamin D, Colon Cancer, Blood Cancer, Leukaemias

Introduction

The review article, written by professors Carsten Carlberg from the University of Eastern Finland and Alberto Muoz from the Autonomous University of Madrid, was published in Seminars in Cancer Biology and gives readers an update on the molecular basis of vitamin D signaling and its function in the treatment and prevention of cancer [1].

The authors note that while vitamin D is well known for its vital role in bone health, it also modulates the immune system and has anti-cancer actions that are mostly mediated by immune cells like monocytes and T cells. The vitamin D receptor (VDR), a transcription factor involved in the expression and epigenetic regulation of several genes, is the mechanism by which vitamin D exerts its effects [2].

The strongest support for vitamin D's advantages in colorectal cancer and blood malignancies like leukaemia and lymphomas comes from studies concentrating on how it affects various types of cancers, the review claims. Adult stem cells in quickly regenerating tissues, such the skin or colon, as well as the differentiation of blood cells during hematopoiesis depend on vitamin D. An insufficient level of vitamin D impairs the VDR's performance and increases the likelihood that these cells won't properly differentiate and will instead begin to proliferate unchecked [3].

The research team of Professor Carlberg has previously demonstrated that each person's molecular response to or sensitivity to vitamin D intake varies. For instance, 25% of the population of Finland appears to be a low responder who requires larger vitamin D supplementation doses to achieve the full clinical effect. Being a high responder is expected to have a protective effect in terms of cancer risk [4].

Numerous epidemiologic studies have examined whether higher vitamin D intakes or blood levels are associated with a decreased risk of developing particular malignancies. These

studies' findings have been inconsistent, which may be related to the difficulties in conducting them. For instance, vitamin D produced in the skin through exposure to sunshine is not taken into account in dietary studies, and the level of vitamin D tested in the blood at one particular time may not accurately represent a person's genuine vitamin D status. It's possible that persons who consume more vitamin D or who have greater blood levels of the vitamin are more likely to practise other healthy habits. Instead of vitamin D intake, one of these other habits may affect cancer risk [5].

Conclusion

When all the information is considered, it cannot be determined whether taking vitamin D can prevent cancer. New randomized trials must be carried out in order to completely comprehend how vitamin D affects outcomes in cancer and other areas of health. However, it is still unclear what dosage of vitamin D should be used in these experiments. When to begin taking vitamin D and for how long in order to possibly notice a benefit are other unanswered concerns.

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