Vitamin D levels are inversely proportional to the "common cold"

The role of vitamin D in bone metabolism and associated pathology is well established. This paper is the first high-powered population study to demonstrate an inverse relationship between vitamin D levels and recent upper respiratory tract infection (URTI). Vitamin D levels were measured in 18,883 participants in the Third National Health and Nutrition Examination Survey in the USA and they were asked whether they had symptoms suggestive of a URTI in the preceding few days. The study was adjusted for diversity in age, sex, race, season, location, body mass index, smoking, asthma and chronic obstructive pulmonary disease (COPD); 24% of those with a vitamin D level $<10$ ng/ml had a recent URTI compared with 21% in those with levels of $10-30$ ng/ml and 17% in those with vitamin D levels $>30$ ng/ml. Perhaps the most important finding was that patients with asthma had an odds ratio of 5.67 of recent URTI with vitamin D levels $<10$ ng/ml compared with those with vitamin D levels $>30$ ng/ml, and for COPD the odds ratio was 2.26.

The most important application of this research may be in those with asthma or COPD in whom an URTI may lead to lower respiratory tract infections or more life-threatening complications such as pneumonia. One of the limitations of this paper is that it is not clear whether vitamin D is a surrogate of poor nutrition in the context of chronic lung disease, and therefore susceptibility to URTI is due to that rather than pure vitamin D deficiency. More work is needed in the basic science of vitamin D and immunity which can then be translated to clinical trials.


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