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VITAMIN D: A PILOT STUDY OF THE CZECH POPULATION

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INTRODUCTION

Low serum levels of vitamin D play a significant role in the origin of several serious diseases (e.g., infectious, cancer, cardiovascular).

OBJECTIVE

To find out vitamin D serum levels in the Czech population, changes in vitamin D serum levels in cancer and patients with COVID-19 infection, and the optimal substitution of vitamin D.

METHODOLOGY

Groups of patients: A cohort of 3,500 Czech population with vitamin D levels was examined in March 2023. A group of 1,000 patients with cancer and another group of 1,000 patients with COVID-19 infection were also included. Serum levels of Vitamin D were examined by chemiluminescence method using the Beckman Dxl 800 instrument.

RESULTS

In the general population, the most common serum levels were within the range of 30 – 50 nmol/ L. Vitamin D deficiency and the extreme deficiency (below 30 nmol/L) occurred very rarely. On the contrary, we found extreme deficiency of vitamin D much more often in cancer patients, most often in lung cancer (18%), while normal levels were only found in 15-20% of cancer patients. Among patients with COVID-19 infection, serum levels were closely correlated with the clinical course of the disease. Patients with severe course had extremely low levels, whereas, those who had a mild course had vitamin D levels within the normal reference range.

CONCLUSION

Low serum levels of vitamin D represent a serious problem in the Czech population. Vitamin D deficiency is a serious risk factor for cancer and infectious diseases. The optimal replacement dosage for adults is between 1,500-2,500 IU per day.

KEYWORD

Vitamin D