XXVIII BALKAN CLINICAL LABORATORY FEDERATION MEETING AND XIII NATIONAL CONFERENCE OF CLINICAL LABORATORY

8 - 11 SEPTEMBER 2021, SOFIA

Vitamin D Levels in Adult Outpatients For a Period of Eight Months

M. Todorova, D. Gerova

Department of Clinical Laboratory, MU Varna, Bulgaria

PURPOSE / OBJECTIVES

Due to a more sedentary lifestyle and to increased indoor working the incidence of vitamin D insufficiency/deficiency is too frequent. Vitamin D is critical not only for bone and mineral metabolism but also for the immune responses. It has immunoregulatory properties and can modulate the innate and adaptive immune responses. Low levels of vitamin D have been associated with increased susceptibility to infection, chronic diseases, and cancer.

The aim of this study was to assess the serum 25-hydroxy-vitamin D (25OHD) levels in adult outpatients from September 2020 through April 2021, period with a high incidence of viral infections.

MATERIALS & METHODS

Patients:

- 367 healthy subjects
- 67 men and 300 women
- mean age 46,31±3,5 years

Methods:

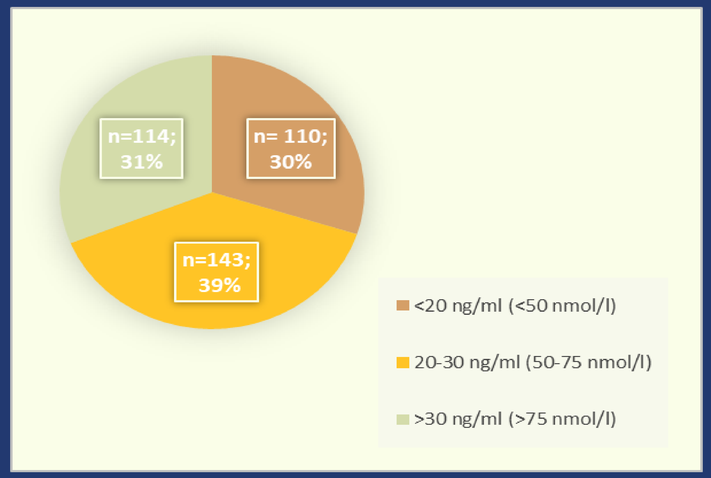
- Vitamin D status is assessed by measurement of 25OHD serum levels (chemiluminescent immunoassay: Access 2, Beckman Coulter; Cobas e411, Roche).
- A descriptive statistical analysis is applied.

RESULTS & DISCUSSION

Vitamin D testing is constantly increasing in the western world (1). There is some interest in vitamin D testing in Bulgaria too, but the proportion compared to all laboratory tests still remains low.

Over an 8-month period only 367 vitamin D tests (~1 %) were performed from a total of about 35,000 samples from the clinical laboratory of two medical centers of Varna (Bulgaria).

Women between 40 and 50 years of age were mainly tested (82%), reflecting the general practitioners' attitude of prescribing vitamin D testing only for individuals at a risk for osteoporosis.



RESULTS & DISCUSSION

Since 2000, there has been a dramatic increase in vitamin D research worldwide. Non-calciotropic actions and extraskeletal effects of vitamin D has been proved and inadequate vitamin D status observed in many epidemiological studies was associated with various autoimmune disorders, malignancies, infections, inflammatory bowel diseases, psychological and cognitive disorders, obesity and others (2,3,4).

The mean value of serum 25OHD levels of the studied population was 26.91±11,6 ng/ml and did not reach the optimal value of 30 ng/ml. From all tested subjects only 30% had adequate Vitamin D status. The rest subjects were vitamin D insufficient (39%) having serum 25OHD levels between 20 to 30 ng/ml or deficient (31%) which serum 25OHD levels were below 20 ng/ml. Therefore optimal serum concentrations of 25OHD for maintaining bone and general health had not been established in 70% of studied population.

SUMMARY/CONCLUSION

Despite the numerous scientific data regarding the important role of vitamin D in maintaining human health vitamin D inadequacy is not widely recognized as a problem by general practitioners. They still prescribe vitamin D testing only for patients at a high risk for osteoporosis.

A large proportion in Bulgarian population during winter are vitamin D insufficient/deficient. Optimizing serum vitamin D levels by improving lifestyle and dietary supplementation would be a cost-effective measure to improve the general health of the population.

References:

1. G Yılmaz et al. Assessment of regulation on vitamin D test requesting in terms of the rational laboratory use, Turkish Journal of Biochemistry, 2021 (2)
2. A Jukic et al. Measurement of Vitamin D for Epidemiologic and Clinical Research: Shining Light on a Complex Decision, American Journal of Epidemiology, 2018 (4)
3. A Krist et al. Screening for Vitamin D Deficiency in Adults. US Preventive Services Task Force Recommendation Statement, JAMA. 2021
4. L Kahwati et al. Screening for vitamin D deficiency in adults: updated evidence report and systematic review for the US Preventive Services Task Force. JAMA, 2021