Clinical Research Results Abstract

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Prevalence of vitamin D deficiency and insufficiency in patients with chronic obstructive pulmonary disease

Malek Chaabouni[1], Walid Feki[2], Khansa Chaabouni[3], Youssef Elloumi[3], Khouloud Abdelmouleh[2], Nadia Moussa[2], Fatma Makni Ayadi[3], Samy Kammoun[2]
[1]1 Department of Family Medicine, Faculty of Medicine of Sfax, Tunisia ; [2] Primary Care Respiratory Group of the Association for Promotion of Pulmonology and Allergology (www.appa.org.tn), [2]Department of Pulmonology. Hedi Chaker Hospital. Sfax, Tunisia, [3]Department of Biochemistry, Habib Bourguiba Hospital, Sfax, Tunisia

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Aim: Patients with chronic obstructive pulmonary disease (COPD) represent a very specific population particularly at risk to develop vitamin D deficiency. The aim of this study was to determine its prevalence in different disease stages.

Method: It was a cross-sectional study. It was conducted by the Department of Pulmonology of Hedi Chaker Hospital and the Department of Biochemistry of Habib Bourguiba Hospital in Sfax (Tunisia) between February 1st and March 31th, 2019. Eligible individuals with COPD, who attended outpatient clinics during the period of the study, were invited to join the study. Patients were asked about demographic features and health conditions. COPD characteristics were collected from interviews and spirometry results. Patients were categorized using the refined ABCD assessment tool, and the degree of airflow limitation was classified according to GOLD. Blood samples were taken for a general biology test and 25OHD measurement. Vitamin D deficiency was defined as 25OHD level < 12 ng/ml. Levels < 20 ng/ml were considered insufficient.

Results: Forty patients were recruited. Their mean age was 67.5 ± 7.9 years. Patient's distribution according to ABCD was: Group A (20%), Group B (32.5%), Group C (12.5%), Group D (35%). Patient's airflow limitation was mild in 7.5%, moderate in 27.5%, severe in 37.5% and very severe in 27.5%. Mean 25OHD concentration was 17.4 ± 8.6 ng/ml. The prevalence of vitamin D deficiency was 22.5%. 25OHD insufficiency was present in 50%. Patients with severe and very severe GOLD stages represented 2/3 of those suffering from a deficiency and 63.6% of those having an insufficiency. Only one patient having GOLD IV had a normal vitamin D level. Patients with vitamin D deficiency and insufficiency were classified in B and D groups in 77.8% and 63.6%, respectively.

Conclusion: Vitamin D deficiency and insufficiency are very frequent in patients with COPD and should be expected and then prevented especially in advanced stages of the disease.

Declaration of Interest

The authors do not have any conflict of interest - The study was achieved without funding