

## Abstract

### Introduction:

Despite publication of numerous articles about the relationship between vitamin D and immune system, the clinical role of vitamin D in asthma is still being discussed. This study evaluates 25-hydroxy vitamin D serum level in asthmatic patients and compares it with control group.

### Materials and Methods

This study is a case-control one, on 82 subjects (52 patients and 30 controls). Asthmatic patients were selected from lung clinic, by simple tests and ruling out of other causes of wheezing. Control group was selected from the attendants to other hospital clinics with no lung disease. A questionnaire was filled for each individual. Also, a spirometry was done for all individuals in case group and the results of their spirometry were listed in the questionnaire. Finally, all the data was analyzed by SPSS v16.

### Results

82 individuals participated this study, the average age of the case group being  $45.54 \pm 11.49$ , and that of the control group being  $40.57 \pm 13.61$  ( $p=0.089$ ). Of the case group 55.8% were female and 44.2% were male, and in the control group 43.3% were female and 56.7% were male. At the baseline spirometry, the FEV1 of patients had an average of  $1.76 \pm 0.89$ , 56.6% of patients had severe asthma. The average FVC, FEV1/FVC and FEF<sub>25-75</sub> of patients were 80.63%, 60.46% and 24.33% respectively. The difference of FEV1 before and after administration of bronchodilator was 0.43 L. in this study, the serum level of vitamin D in the case group was  $18.92 \pm 10.93$  ng/ml, and  $19.58 \pm 14.42$  ng/ml in the control group ( $p=0.816$ ). Also, 63.5% of the case group and 53.3% of control group had a vitamin D level of below 20 ng/ml ( $p=0.654$ ). Data analysis showed no meaningful association between age ( $p=0.202$ ), gender ( $p=0.063$ ), severity of the disease ( $p=0.141$ ) in asthmatic patients and vitamin D level.

### Conclusions

This study showed no association between vitamin D levels and incidence of asthma. This is against most of the studies done.

**Key Word:** Asthma, Vitamin D