



Relationship Between Serum Vitamin D and Pulmonary Function in Adults With Asthma Exacerbation.

KEYWORDS

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INTRODUCTION

Asthma exacerbations are the leading causes of asthma morbidity and comprise a significant proportion of asthma-related costs. Vitamin D status may play a role in preventing asthma exacerbations.

AIM OF THE STUDY

- To measure serum Vitamin D in patients with asthma exacerbation, and compare it with stable asthma patients and normal individuals.
- To assess the relationship between serum vitamin D in patients with asthma exacerbation to their pulmonary function and response to treatment.

MATERIALS AND METHODOLOGY

We studied 52 asthma exacerbation cases and compared with 21 stable asthma patients and 26 normal individuals. Serum Vitamin D was analysed and categorized into deficient (<20ng/ml), Insufficient (≥ 20 to <30ng/ml) and sufficient (≥ 30 ng/ml). Pulmonary function was assessed by PEFR, FEV1 and FVC. Statistical analysis was done by SPSS software, Student's t-test and Pearson correlation method. The degree of association between serum Vitamin D, inflammatory markers and pulmonary function were calculated and compared with stable asthma patients and healthy individuals.

RESULTS AND DISCUSSION

Among asthma exacerbation cases 98.1% had lower vitamin D level. Serum vitamin D had significant negative correlation with serum CRP, ESR, urine microalbumin, mean TLC and positive correlation with predicted day1 to day5 PEFR, day3 and day5 FEV1 and percentage change in PEFR.

CONCLUSION

Deficient vitamin D levels were found in most of asthma exacerbation cases and had inverse relationship with lung functions and rate of lung function improvement. It suggests that Vitamin D supplementation during asthma exacerbation may result in improvement in severity and treatment response.