Original Paper

Effect of vitamin D as a supplemental therapy in treatment of patients with lung tuberculosis

Alavi SM (MD)*[1], Sefidgaran Gh (BSc)[2], Albaji A (MSc)[3], Nezhad Eslami A (MD)[4]

[1]Associate Professor, Department of Infection Diseases, Infectious and Tropical Diseases Research Center of Ahvaz Jundishapour University of Medical Sceinces, Ahvaz, Iran. [2]Disease Prevention Official, Health Center of Jundishapour University of Medical Sceinces, Ahvaz, Iran. [3]Academic Instructer, Department of Health, Jundishapour University of Medical Sceinces, Ahvaz, Iran. [4]General Physician.

Abstract

Background and Objective: Previous studies have shown that vitamin D is involved in host immune response toward Mycobacterium tuberculosis (MTB). The aim of this study was to determine if administration of vitamin D can improve treatment outcome and whether is able to increase the rate of sputum clearance of MTB in patients with pulmonary tuberculosis (PTB).

Materials and Methods: This randomized clinical trial study was conducted on 96 patients with lung tuberculosis in Ahvaz, Iran during 2008-09. The patients were 18>=years old with sputum positive for acid fast bacillus. Patients were placed in two equal groups as cases and controls. Cases were treated by standard anti TB regimen plus 800 IU/day vit D orally. Controls were treated only by standard anti TB regimen. Follow up sputum examination for presence AFB was performed at the end of month 1, 2, 3, 4 and treatment period. Data were analyzed in SPSS-16 by using descriptive statistics test, chi square and fisher exact test.

Results: Mean±SD age of cases and controls was 39.1±17.8 and 38.3±17.6 years, respectively. Overall cure rate in case and control was 93.8% and 95.8% respectively, with no significant difference. The rate of negative sputum of cases in the end of months 1, 2, 3, 4 and treatment period was 66.7%, 78.5%, 93.8% and 93.8% respectively, and for controls was 35.4%, 66.7%, 91.7% and 95.8% respectively. There was significant difference between two groups in the end of first and second month ($P<0.05$).

Conclusion: This study showed that vitamin D as a supplemental drug does not improve the overall treatment outcome among lung TB patients, but it may be able to increase the rate of sputum clearance of Mycobacterium tuberculosis.

Keywords: Vitamin D, Pulmonary tuberculosis, Anti TB chemotherapy, Ahvaz

*** Corresponding Author:** *Alavi SM (MD), E-mail: alavi1329dr@yahoo.com*

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