Vitamin D Status in Children with Tuberculosis

Ira Shah¹ • Drishti Tolani¹ • Neha Bansal¹ • Naman S. Shetty¹

Received: 20 June 2019 / Accepted: 8 July 2019 / Published online: 23 July 2019
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To the Editor: Epidemiological evidence supporting the function of vitamin D in the immune response to tuberculosis (TB) infection is being increasingly reported [1]. Thus, vitamin D deficiency is being considered as a risk factor for tuberculosis.

This retrospective analysis was done at the Pediatric TB clinic in a tertiary children hospital. Forty-two patients of 242 patients referred to the TB clinic from 2010 to 2011 and were included in the study. Their serum 25-hydroxyvitamin D [25-(OH) D] levels, the type of tuberculosis that they were diagnosed with and the month of testing after antitubercular therapy (ATT) initiation were recorded. 25-hydroxyvitamin D levels were recorded as sufficient, insufficient and deficient if greater than 30 ng/ml, between 11 and 30 ng/ml and less than 11 ng/ml respectively [2].

The association between vitamin D levels and age, gender, type of tuberculosis, month of testing after initiating ATT was analyzed by Chi-Square test or Fishers exact test or unpaired T test and were statistically insignificant when statistical significance was considered if the *p* value was <0.05. *P* values for the association of vitamin D levels with age, gender and month of testing after initiating ATT were 0.98, 0.09 and 0.55 respectively.

High, deficient, insufficient and sufficient 25-(OH) D levels were seen in 1(2.3%), 11(26.8%), 24(58.5%) and 6(14.6%) patients respectively. Pulmonary TB, abdominal TB, bone TB, latent TB, disseminated TB, TB adenopathy, neuro TB and serositis was present in 23 patients (55%), 3 patients (7%), 4 patients (9%), 5 patients (12%), 2 patients (5%), 2 patients (5%), 2 patients (5%) and 1 patient (2%) respectively. 25-(OH) D testing was done before initiating ATT, during intensive phase of ATT and maintenance phase

of ATT in 10(23.8%), 17(40.5%) and 15 patients (35.7%) respectively.

In our study 85.3% of patients were found to have either insufficiency or deficiency of vitamin D which is highly consistent with a similar study carried out in England [3]. In our study only 6 patients had sufficient vitamin D levels.

Studies have established hypothetical reasons for the association of vitamin D deficiency and tuberculosis which include decreased dietary intake or increased utilization to combat the infection [4].

Children have a lesser developed immune system and are more prone to TB and children below 5 y of age have greater severity of tuberculosis as compared to others [5]. Thus, more studies to establish the benefits of vitamin D supplementation in children with tuberculosis is particularly required.

Compliance with Ethical Standards

Conflict of Interest None.

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✉ Ira Shah
irashah@pediatriconcall.com

¹ Pediatric TB Clinic, B. J. Wadia Hospital for Children, Acharya Donde Marg, Parel, Mumbai 400012, India