Summary

Over the past decade, interest has grown in the role of vitamin I) in many nonskeletal medical conditions, including respiratory infection. Emerging evidence indicates that vitamin D-mediated innate immunity, particularly through enhanced expression of the human cathelicidin antimicrobial peptide (hCAP-18), is important in host defenses against respiratory tract pathogens. Observational studies suggest that vitamin D deficiency increase' risk of respiratory infections. This increased risk may contribute to incident wheezing illness in children and adults and cause asthma exacerbations. Although unproven, the increased risk of specific respiratory infections in susceptible hosts may contribute to some cases of incident asthma. Vitamin D also modulates regulatory T-cell function and interleukin-10 production, which may increase the therapeutic response to glucocorticoids in steroid-resistant asthma. Future laboratory, epidemiologic, and randomized interventional studies are needed to better understand vitamin D's effects on respiratory infection and asthma (**Gindc et al., 2009)**

High Vit D levels are associated with better lung function, less airway hyper responsiveness and improved glucocorticoid response. ***(Sutherland et al., 2010).***

In present study we aimed to study the association between childhood asthma and serum vit D level.

The study was conducted on 80 simple randomly selected children, aged above 6 years to 12 years, thirty patients were suffering from bronchial asthma (group 1a) , thirty were suffering from bronchial

asthma and respiratory infection (group 1b) and twenty were healthy , age and sex matched children taken as a control group.

All children included in this study were subjected to complete history, clinical examination and Laboratory investigation. Detection of serum vit D levels was done.

We had the following results:

- No significant difference between patients and controls as regard age, sex and residence distribution, family size and family history of atopy.

- There was a significant difference between patients and controls as regard eosinophilic count and no significant as regard HB level.

- Mean of serum vit D level for cases was 64 nmol/l, While in controls was 98 nmol/l.
- Asthmatic children with vit D deficiency were 63.6% had sever persistent asthma and 31.8 % had moderate persistent asthma.
- Asthmatic children with vit D insufficiency 11.8% had sever persistent asthma, 64.7% had moderate persistent asthma and 11.8% had mild persistent asthma.

- Asthmatic children with vit D sufficiency 14.3% had moderate persistent asthma, 28.6% had mild persistent asthma and 57.1% had intermittent asthma.

- Asthmatic children with vit D deficiency and taking ICS were 63.6% while in vit D insufficiency were 36.4% and no one with vit D sufficiency was taking ICS therapy

- We concluded that most of asthmatic children had vit D deficiency.
- Most of asthmatic children with vit D deficiency had eosinophilia, sever asthma degree and all were taking ICS therapy.
- We recommended further studies to evaluate the role of vit D in the etiology of asthma, asthma degree and treatment.

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