Summary and Conclusions

Mycobacterium tuberculosis infection remains a major cause of global mortality and morbidity and the resulting disease, tuberculosis (TB), caused an estimated 1.7 million deaths in 2009.

However, the majority of the 2 billion people estimated to be infected with M. tuberculosis have asymptomatic infection, termed latent TB infection (LTBI).

Patients with active tuberculosis are more likely to be vitamin D deficient than rest of population. New researches showed that the majority of patients with tuberculosis have low levels of vitamin D.

Vitamin D is a hormone rather than a classic vitamin. Since with adequate exposure to sunlight, no dietary supplement are needed. Vitamin D exerts its physiologic effects on bone, intestine, kidney and the parathyroid glands to modulate calcium and phosphorus metabolism.

The best indicator of vitamin D status is the concentration of circulatory 25-hydroxy vitamin D. Recent discoveries indicates that vitamin D has functions unrelated to calcium, especially in cell differentiation and in the immune system.

The present study aimed to assess vitamin D status in children with tuberculosis.

The present study included 25 children with tuberculosis (Group I) presented with history of contact to a family member had tuberculosis disease , a family member had a positive tuberulin skin test and clinical picture of active tuberculosis according to the American Academy of

pediatric such as fever, fatigue, irritability, a persistent cough, weakness, heavy and fast breathing, night sweats, swollen glands, weight loss, and poor growth.

Among the total number of studied patient 13 (52%) were male and 12 (48%) were female. And ten healthy children were taken as controls (Group II).

All children in the study were subjected to full medical history, through clinical examination, radiological and laboratory investigation including complete blood count, erythrocyte sedimentation rate,SGOT,SGPT,T. bilirubin and 25 (OH) D by RIA were done to both cases and control.

In our cases; 32% had vitamin D insufficiency and 40% had vitamin D deficiency, while control healthy children 10% had vitamin D insufficiency .

There was a significant decrease in the mean serum level of vitamin D in patients compared to healthy children as the mean serum level of vitamin D in patients is 20.8 ng/ml while in healthy children is 41.3 ng/ml.

The study also showed that there is no significant difference between patient and control groups as regards trasaminases level and bilirubin level.

The study also showed that there was a significant difference between patients and control group as regards haemoglobin levels, WBCs count,E.S.R, and chest x ray findings.

Also there was a significant decreasement in body weight noticed in T.B. patients before treatment .

There is also highly statistically significant difference between patients and controls as regards tuberculin reaction .

The study also showed that cough, dyspnea, chest pain, anorexia and weight loss were significantly prevalent symptoms in patients with tuberculosis.

Conclusion

From this study we concluded that tuberculosis in children is associated with vitamin D deficiency as there was a significant difference in the mean serum levels of vitamin D between cases and healthy children