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Association between vitamin D deficiency & paediatric tuberculosis

Sir,

I read with great interest the article by Khandelwal *et al*¹. They undertook a study to determine the baseline 25-hydroxy vitamin D levels in children suffering from intrathoracic tuberculosis and its association with type and outcome of tuberculosis. Majority of Indian children with newly diagnosed intrathoracic

tuberculosis were found to be deficient in vitamin D and children who did not demonstrate sputum conversion after intensive phase of antituberculosis therapy had lower baseline 25-hydroxy vitamin D levels as compared to those who did¹. The article has important messages. But there are some issues which need to be clarified.

First issue is the absence of a control group. We think that a control group is a “*sine quonone*” for that kind of a study and all the subjects in the control group should have tuberculin skin test and chest radiography to screen for latent tuberculosis.

Another issue is that the authors should have better statistically analyzed the impact of the presence of cavitory disease on smear conversion because the presence of cavitory disease has been previously reported to be associated with a longer time to sputum smear conversion in patients with active pulmonary tuberculosis². This parameter may interfere with the proposed effect of vitamin D deficiency on smear conversion.

As a last point, was there any patient who had paradoxical response to antituberculosis therapy in this series? Paradoxical deterioration during antituberculosis therapy is defined as the clinical or radiological worsening of pre-existing tuberculous lesions or the development of new lesions in a patient who initially improves³ and it has been observed in upto 16 per cent of patients in another study⁴. Following the antituberculosis therapy, improved immune function leading to a greater inflammatory reaction is thought to be responsible for paradoxical deterioration. We think that the answer to our question is important because the

absence of any paradoxical response in the vitamin D insufficient and deficient groups may provide indirect evidence for impaired immune reconstitution in these groups of patients.

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