

Changes in Serum Level of Vitamin D During Healing of Tibial and Femoral Shaft Fractures

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Dear Editor,

We read with interest the article by Ettehad et al. (1), in which the authors provide a detailed discussion of the variations in serum vitamin D levels during the course of fracture healing. We have a few considerations regarding this study.

The authors have not mentioned the treatment modalities used for these fractured limbs. Operatively managed fractures are mobilized early; consequently, the serum vitamin D levels of an ambulatory person may differ from those of a bedridden person. Ambulatory persons are also more likely to be exposed to sunlight, and vitamin D 3 (cholecalciferol) is synthesized by the human skin on exposure to the ultraviolet-B radiation of sunlight (2). Both dietary intake and endogenous synthesis contribute to the body's vitamin D status. Since different factors modulate the extent of endogenous vitamin D formation, quantification is hardly possible.

Regarding the objective of this study, the authors mentioned studying the role of vitamin D supplementation in the process of bone formation. However, they have not mentioned whether vitamin D supplementation was started in these patients. In addition, no mention is made regarding the effects of the low measured vitamin D levels on the final results of fracture healing.

Tibia and femoral fractures take a longer time to unite, (3), so the serum vitamin D levels at the time of fracture union (i.e., six months and/or at the time of delayed union/non-union) should have been reported to make the study more effective.

The levels of vitamin D showed uniform decreases in all age groups and among both genders in the first week, indicating that the fracture healing takes the same course (direct or indirect healing). All persons with fractured bones may not be targets for vitamin D supplementation, and only patients with previously low levels or patients with re-

fractures might benefit from these supplementations (4).

Further studies are required to determine the effect of low initial levels of vitamin D on fracture healing. The authors should expand on the present study by checking the levels of vitamin D at the time of radiological or clinical union of the fractures and then checking the effect of vitamin D supplementation on the fracture healing process. Furthermore, refracture in these patients may be an eye opener for developing countries, where we often see hypovitaminosis in the general populations.

Acknowledgments

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