

Metabolic bone disease in cirrhosis patients

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Long-standing liver disease has long been recognized to result in fragile bones with increased risk of fractures. In various international studies, the overall incidence has varied from 11% to 48%, with a fracture rate of 3%-44%. However, the reason for this is poorly understood. With liver transplantation becoming a viable option in liver disease and offering complete cure and long-term survival, bone disease is becoming the major determinant of survival and quality of life in these patients.

A research article to be published on July 28, 2009 in the [World Journal of Gastroenterology](#) addresses this question. This research team was led by Tushar R Bandgar from KEM Hospital, India.

They found that low bone formation and increased resorption led to fragile bones in these patients. Contributing factors identified were inadequate sunlight exposure, reduced physical activity, low body weight, vitamin D deficiency and low level of testosterone. They also demonstrated that the severity of bone loss was accelerated in patients with low IGF-1 level. IGF-1 is normally synthesized in the liver and its synthesis is affected early in cirrhosis. The present study also found that the increased estrogen level seen in cirrhosis was protective against osteopenia.

These results shed new light on bone disorders seen in patients with cirrhosis. As most of the factors identified are correctable or treatable, it should provide additional help in treatment of these patients, such that they have better quality of life and survival.

More information: George J, Ganesh HK, Acharya S, Bandgar TR, Shivane V, Karvat A, Bhatia SJ, Shah S, Menon PS, Shah N. [Bone mineral density](#) and disorders of mineral metabolism in chronic [liver disease](#). *World J Gastroenterol* 2009; 15(28): 3516-3522
www.wjgnet.com/1007-9327/15/3516.asp

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