

Title: The Relationship Between Chronic Liver Disease and Osteoporosis: A Retrospective Single-Center Experience

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Abstract: Present evidence discussed in literature reviews shows that chronic liver disease (CLD) leads to an increased risk of osteoporosis. Our study aimed to investigate the association between CLD and bone mineral density (BMD), a key indicator of osteoporosis. **Methods and Results:** This retrospective study included 53 patients (mean age of 63.7 ± 9.3 years) with CLD who underwent a DEXA scan at the lumbar spine and femoral neck. A majority (83.0%) of the patients were females. Overall, 22.6% of the patients were suffering from liver cirrhosis, 17.0% from hepatitis, and 60.4% had NAFLD. The mean T-scores for the femoral neck and lumbar spine were 1.67 ± 1.07 and -2.43 ± 1.11 , respectively. Based on the T-scores, 47.2% of the patients had osteoporosis, and 41.5% had osteopenia. No statistically significant relationship was observed between BMD and liver disease ($P=0.388$). **Conclusion:** Despite the high prevalence of osteoporosis (47.2%) and osteopenia (41.5%), no statistically significant changes in BMD were found among the study population with CLD. Adjustments for age, sex, and BMI did not help to identify a confirmed association between the diagnosis of CLD and osteoporosis in the study population. Further investigation is warranted to explore the potential association between specific CLD subtypes and osteoporosis risk. (International Journal of Biomedicine. 2024;14(4):659-663.).

Keywords: Chronic liver disease (CLD) Osteoporosis Hepatic osteodystrophy Bone mineral density (BMD) Liver dysfunction

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