

Impact of Long-term Use of PPI on Bone Mineral Density

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ABSTRACT

Proton pump inhibitors (PPIs) are commonly prescribed for the treatment of various gastrointestinal conditions. However, extended use of these medications has been linked to potential alterations in bone mineral metabolism. This study aims to assess the impact of PPIs on bone mineral density (BMD) and identify associated risk factors among individuals using PPIs. A cross-sectional study was conducted at the Rheumatology Consultancy Clinic of Baghdad Teaching Hospital/Baghdad Medical City from November 1, 2017, to October 31, 2018. The study included 100 patients, with 50 using PPIs and 50 not using them. BMD was measured using dual-energy X-ray absorptiometry (DXA). PPI users showed significantly lower levels of serum calcium, vitamin D, and serum inorganic phosphorus, as well as increased alkaline phosphatase activity. DXA results, including T-scores, Z-scores for L2-L4, and total scores, were all significantly lower in PPI users compared to non-users ($P < 0.05$). Prolonged use of PPIs adversely affects bone mineral density, contributing to the development of osteoporosis and osteopenia, particularly in the lumbar spine.

Keywords: proton pump inhibitors, Dexa scan, Ca mineral, Vitamin D, phosphorus

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