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REVIEWER'S REPORT

Manuscript No.: IJAR-53401 Date: 16/08/2025

Title:

Evaluation of the Interrelationship between Serum Osteocalcin Vitamin D and Parathyroid Hormone Levels and Glycemic Control in Type 2 Diabetes Mellitus in a Cross-Sectional Study

Recommendation:

Accept as it is .....YES.....

Accept after minor revision.....

Accept after major revision .....

Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality	✓			
Techn. Quality	✓			
Clarity	✓			
Significance	✓			

Reviewer Name: **Dr. Srinivas Babu Kathi** **Date:** 16/08/2025

Reviewer's Comment for Publication.

(*To be published with the manuscript in the journal*)

The study is scientifically sound, clinically relevant, and contributes meaningfully to current literature. It provides a strong foundation for future research aimed at integrating bone metabolism into the holistic management of type 2 diabetes.

Detailed Reviewer's Report

The present study offers valuable insights into the complex interplay between bone metabolism and glycemic regulation in type 2 diabetes mellitus. By focusing on serum osteocalcin, vitamin D, and parathyroid hormone levels, the research effectively highlights the bidirectional relationship between skeletal health and glucose homeostasis.

The findings are noteworthy, as they demonstrate that alterations in these bone-related biomarkers are significantly associated with impaired glycemic control. This reinforces the growing body of evidence suggesting that bone is not merely a structural tissue but also an active endocrine organ influencing energy metabolism. The integration of bone biomarkers with conventional glycemic indices adds an important dimension for assessing the metabolic status of diabetic patients, potentially enhancing diagnostic and prognostic accuracy.

A major strength of this study lies in its emphasis on the clinical relevance of monitoring bone-derived hormones in diabetes care. The implications extend toward personalized management strategies, as they open avenues for future therapeutic interventions targeting bone metabolism pathways to improve insulin sensitivity and glucose regulation.

However, the study's cross-sectional nature limits causal interpretation. Longitudinal and interventional trials are necessary to establish definitive mechanisms and evaluate the therapeutic potential of modulating bone metabolism in diabetes management. Despite these limitations, the study is an important contribution to the evolving understanding of bone–energy metabolism interactions and underscores the need for interdisciplinary approaches in diabetes research.