

The Biochemical and Radiographic Evaluation of the Non-Metastatic Bone Disease in Patients with Renal Cell Carcinoma Undergoing Hemodialysis

Authors : Aliakbar Hafezi, Jalal Taherian, Jamshid Abedi, Mahsa Elahi

Abstract : Background: Bones are commonly affected by renal cell carcinoma (RCC) (primarily or secondary), and this condition causes bone fragility. The aim of this study was to evaluate the diagnostic value of noninvasive methods for the diagnosis of ROD in RCC patients on hemodialysis (HD) in northern Iran. Methods: In this cross-sectional study, 50 RCC patients with ESRD referred to dialysis units in northern Iran during 2021-2024 were randomly selected and investigated. The biochemical and radiographic evaluation of ROD and its subtypes was performed, and then all patients underwent bone biopsy and histopathological study, and finally, the diagnostic value of the noninvasive methods was assessed. Results: The mean age of patients was 58.9 ± 11.7 years, and 27 cases (54.0%) were female. 38 (76.0%) of RCC patients with ESRD had ROD, and 12 patients (24.0%) had no evidence of bone disorders. The sensitivity, specificity, positive and predictive values and accuracy of the noninvasive methods for the diagnosis of ROD were 92%, 82%, 95%, 75% and 90%, respectively. Conclusion: This study showed that the frequency of ROD in RCC patients with ESRD in northern Iran was high and the biochemical and radiographic markers have a high diagnostic value for ROD as well as histopathological assessment.

Keywords : renal cell carcinoma, renal osteodystrophy, hemodialysis, non-metastatic

Conference Title : ICO 2025 : International Conference on Oncology

Conference Location : Paris, France

Conference Dates : December 30-31, 2025