

## Usefulness of bone uptake ratio of bone scintigraphy in hemodialysis patients

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**Objective:** It is important to estimate the bone metabolism in patients with renal osteodystrophy. The methods of estimation must be noninvasive, accurate, and able to measure repeatedly.

**Methods:** The regions of interest on bone scintigraphy were drawn over the radius in 22 hemodialysis patients (10 males, 12 females). The bone/soft tissue ratio (B/ST ratio) was calculated for all patients. The bone soft tissue ratio of both skull (S) and radius (R) was obtained from the resultant count ratios. We investigated the correlation between intact parathyroid hormone (PTH), alkaline phosphatase (ALP) and the uptake ratios S and R. **Results:** Intact PTH had a significantly linear correlation with R ( $r = 0.745$ ,  $p < 0.0001$ ) and S ( $r = 0.702$ ,  $p = 0.0001$ ). ALP also had a significantly linear correlation with R ( $r = 0.537$ ,  $p = 0.009$ ) and S ( $r = 0.772$ ,  $p < 0.0001$ ).

**Conclusion:** The measurement of the bone soft tissue ratio of radius on bone scintigraphy was crucial for estimating renal osteodystrophy.

**Key words:** bone scintigraphy, bone/soft tissue ratio (B/ST ratio), radius, skull