

THE ULTRASOUND MEASUREMENT OF THE CALCANEUS IN UREMIC PATIENTS ON HEMODIALYSIS: A PROSPECTIVE STUDY

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BACKGROUND: This prospective study was to determine whether ultrasound skeletal measurement would be useful to monitor intervention in treating patients of renal osteodystrophy.

METHODS: The study group included 41 uremic patients and the control group consisted of 30 healthy people. We measured the ultrasound parameters in both study groups and biochemical tests in our patients. Quantitative ultrasound was performed with an acoustic osteo screener, AOS-100 device.

RESULTS: Quantitative ultrasound values were significantly lower in uremic patients compared with normal healthy population ($p=0.011$ in November, 2004; $p<0.001$ in February, 2005; $p<0.001$ in May, 2005; $p=0.0014$ in August, 2005; $p=0.003$ in November, 2005). Serum total calcium level showed a weak, positive, but statistically significant correlation with ultrasound parameters ($r=0.17$, $p=0.014$). There was a lower, statistically significant correlation between i-PTH and Z-score ($r=-0.17$, $p=0.018$). The correlation between ultrasound parameters and duration of dialysis show no significant relationship ($r=-0.082$, $p=0.612$).

CONCLUSIONS: We concluded that ultrasound skeletal measurement would be useful to monitor intervention in treating patients with renal osteodystrophy.

Key words: quantitative ultrasound; bone mineral density; dialysis; renal osteodystrophy