

Bone Mineral Density Measurement in Newly Diagnosed Primary Hyperparathyroidism Patients

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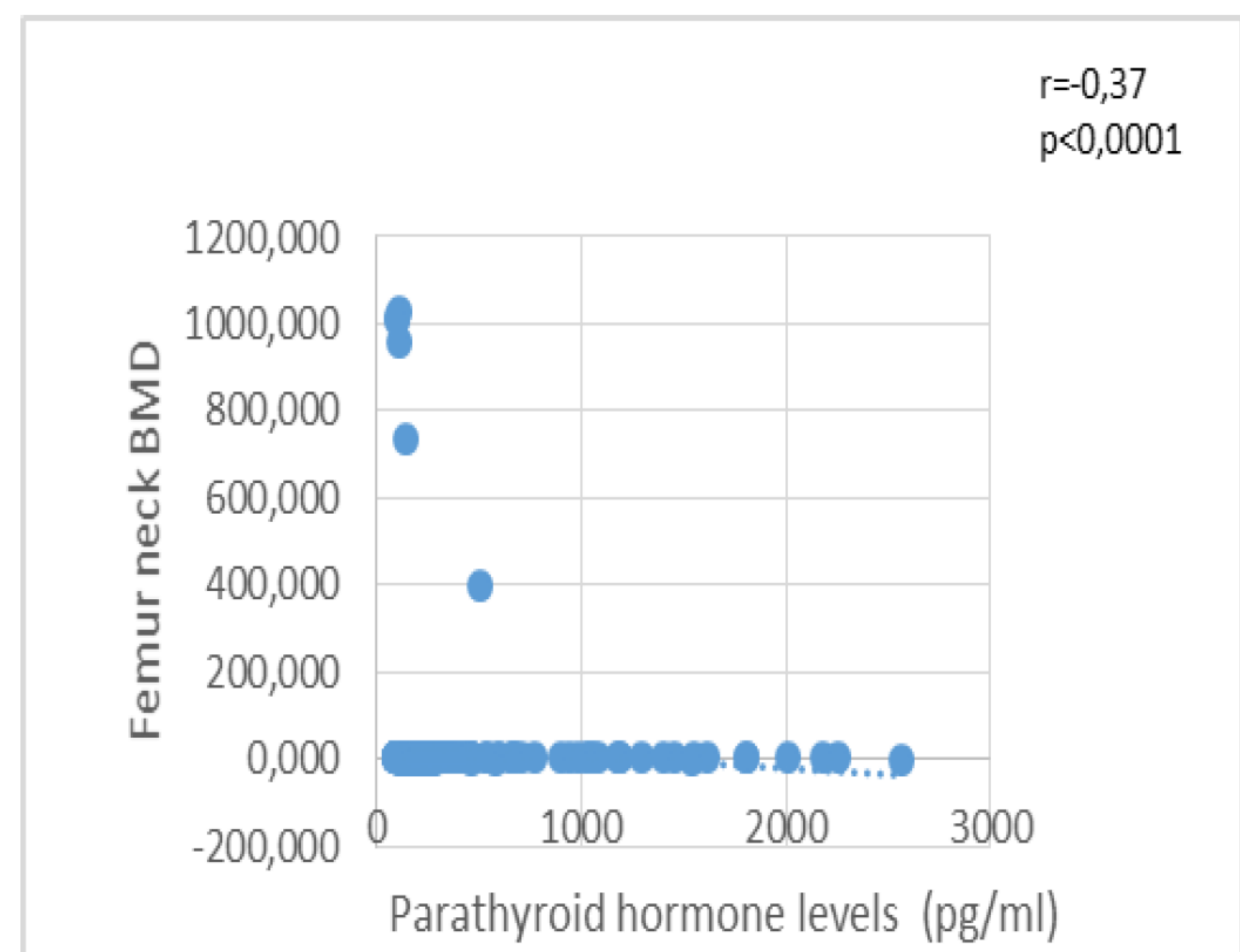
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Aim: Clinical presentation of primary hyperparathyroidism (PHPT) differs between populations. In this study, we aimed to examine bone mineral density (BMD) and bone metabolism parameters in newly diagnosed and untreated PHPT patients in a single endocrine center in İstanbul, Turkey.

Methods: 256 PHPT patients with a mean age of 50,7±14 years (F/M:205/51) and 89 healthy controls with a mean age of 38,8±10 years (F/M:67/22) were included in the current study. Serum calcium, phosphorus, parathormone (PTH), 25(OH) vitamin D, creatinine, thyroid stimulating hormone (TSH), 24-hour urinary calcium, bone mineral density (BMD), body mass index(BMI) and systolic/diastolic blood pressures were measured in both groups. Graphed instat was used for statistical analysis.

Results: %20 of PHPT patients were symptomatic and nephrolithiasis was shown in %20,3 of the patients. Serum calcium levels were 11,2±1,3 mg/dl and 9,6±0,3 mg/dl (p< 0.0001), serum PTH levels were 273,4±374 pg/ml and 61,3±28 pg/ml (p< 0.001) and serum 25OH D levels were 21,9± 20,1 ng/ml and 10,4± 7,1 ng/ml (p<0,0001) for PHPT and control groups respectively. 24-hour urinary calcium levels were 294,4±213,9 mg/day in PHPT group and 137±69,2 mg/day in healthy control group (p<0,0001). Femur neck BMD were 0,82 ± 0,15 g/cm² and 0,98 ± 0,14 g/cm² (P<0,0001) for PHPT and control groups respectively. Femur neck and lumber BMDs, T and Z scores were observed significantly lower in PHPT group compared to healthy controls group (p<0.0001). Femur neck and lumber BMD levels showed negative correlation with PTH in PHPT patients (r=-0.37, p<0,0001). There were osteoporosis in 13.4 percent (n:34) and osteopenia in 9,9 percent (n:25) of PHPT patients.



	Primary Hyperparathyroidi n:256	Control n:89	p
VKI (BMI)	28,6±26,9	29,9±6,6	0,22
Systolic Blood Pressure (mm/hg)	128,9±16	115,1±16,6	0,0001
Diastolic Blood Pressure (mm/hg)	79,3±8,9	70±13,5	0,0001
Calcium (mg/dl)	11,2±6,8	9,6±0,39	0,0001
Phosphorus (mg/dl)	2,8±0,97	3,15±0,48	0,0001
Parathyroid Hormone (pg/ml)	273,4±347,4	61,3±28,1	0,0001
25(OH)D (ng/ml)	21,9±21,2	10,4±7,1	0,0001
24 Hours Urinary Calcium (mg/gün)	294,4±213,9	137±69,2	0,0001
Femur Neck BMD	0,828±0,152	0,985±0,147	0,0001

Conclusion: In our group of patients osteoporosis was diagnosed lower than expected but BMD measurements were lower in PHPT group. The results of this study show that bone turnover is increased and bone mineral density is decreased in PHPT patients, as stated in previous studies.

