Evaluation of Bone Quality, Measured by Trabecular Bone Score in Patients with Primary Hyperparathyroidism

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Introduction. Evaluation of bone quality represents a clinical challenge. Analysis of bone mineral density (BMD) provides useful, but incomplete, information, and new tools are needed. Trabecular Bone Score (TBS) is emerging as a new surrogate marker of bone texture and microarchitecture and, may, therefore, be useful to potentially evaluate the risk of osteoporosis.

Material and methods. Retrospective study of 18 patients with primary hyperparathyroidism. Clinical, analytical and BMD data were collected from clinical records. TBS was calculated by reevaluating the already existing BMD images. Patients were classified into two different groups according to their treatment: 1) 10 patients who underwent surgery, in whom TBS was evaluated before (B-S) and after surgery (A-S), and 2) 8 patients who received standard medical treatment, in whom TBS was evaluated with a time-lapse of one year.

Results. Basal age, body mass index (BMI), serum calcium, PTH and vitamin 25-OH-D levels, and T-Scores were not significantly different between the two groups. We observed a significant improvement of TBS one year after surgery in the first group (TBS B-S 1.24±0.13 vs TBS A-S 1.29±0.11; p=0.03). A subtle deterioration on TBS was observed one year after standard treatment in the second group (1.25±0.7 vs 1.22±0.7; p=0.29). Overall, surgical patients experienced a TBS increase 4.2%, whilst a decrease of 1.6% was observed in the second group (p=0.026).

Conclusion. Bone microarchitecture, measured by TBS, improves after surgery in patients with primary hyperparathyroidism. This parameter seems promising in the evaluation of bone status in primary hyperparathyroidism. Larger and longer follow-up studies deem necessary to better evaluate the potential utilities of using TBS in the assessment of bone quality.

KEYWORDS
Bone, primary hyperparathyroidism.

Renal Function: Glomerular Filtration Rate and Renal Concentration Capacity in Mild Primary Hyperparathyroidism

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Introduction. Patients with primary hyperparathyroidism (pHPT) run an increased risk of death, and in some studies cardiovascular diseases were inversely related to glomerular filtration rate (GFR) and urine osmolality.