P097 Metabolic changes and crystallographic profile in hyperparathyroidism patients with stone disease

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Introduction & Objectives: The hyperparathyroidism (HPT) is a disease characterized by an excessive secretion of parathyroid hormone (PTH) with the consequent hypercalcemia and hypercalciuria. It has been described that between 7-18% of patients with hyperparathyroidism develop stone disease, however, in most cases these are asymptomatic. In the present study we described the metabolic profile and stone composition in a series of hyperparathyroidism patients with stone disease.

Materials & Methods: A retrospective review of patients diagnosed of HPT that underwent surgery by urolithiasis between 2006-2018 was performed. Stone compositions, 24-hour urine collections and serum parameters were examined. End-points of interest was; serum concentration of PTH and calcium, urine pH, urine concentrations of calcium, oxalate, citrate, and crystallographic stone composition.

Results: A total of 44 patients were enrolled in the study. The mean age at diagnosis of urolithiasis was 59.9 ± 13.28 and 56,5% was female. Mean serum calcium and PTH levels were 4.04 ± 5.5 mq/L and 201 ± 164.98 pg/mL. Hypercalcemia was evidenced in 86.7% of patients, only in six patients hypercalcemia is not observed, however, all the cases present elevated PTH. High urinary pH was observed in 42.8%, hypercalciuria and hypocitraturia was recorded in 71.5%, and 28.5%, respectively, no cases of hyperoxaluria were observed. Crystallographic analysis revealed that stone composition was, such as, calcium oxalate dihydrate, brushite and calcium phosphate.

Conclusions: In this series all patients with HPT and stone disease have metabolic abnormalities inherent of PTH elevation, especially, hypercalcemia and hypercalciuria, these conditions can explain the predisposition to stone formation and high trend to recurrence after surgery.