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특발성 고칼슘뇨증의 임상 양상

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Clinical Features of Idiopathic Hypercalciuria

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Introduction: The clinical course and pathophysiology of idiopathic hypercalciuria are not well understood. The goal of this study was to assess the clinical manifestation and the response to treatment reducing urinary calcium excretion of the patients with idiopathic hypercalciuria.

Methods: We collected and analyzed data prospectively on 199 patients who were diagnosed as idiopathic hypercalciuria by 24-hour urine test and followed up more than 6 months.

Results: The study group was composed of 73 men and 126 women, with a mean age at the diagnosis of 50.0±10.2. The chief complaint was microscopic hematuria in 97 (48.7%), urinary stone in 20 (10.1%), edema in 13, and gross hematuria in 12. Among 175 patients who underwent imaging study, 28 (16%) had urinary stone. Among 126 patients who underwent DEXA bone densiometry, 44 (35%) had osteopenia, and 12 (9.5%) had osteoporosis. In women, daily urinary calcium excretion was higher in osteopenia and osteoporosis group than normal bone mineral density (BMD) group (p=0.009). In multivariate analysis, the prevalence of osteoporosis significantly increased (odds ratio 5.52; 95% confidence interval 1.1-27.6) in patients with daily urinary calcium >370 mg (highest quintile of daily urinary calcium excretion). This relationship between urinary calcium excretion and BMD was not observed in men. To manage hypercalciuria, 65 patients were placed on dietary restriction only, 44 patients on thiazide and dietary restriction, and 90 patients on indapamide and dietary restriction. After 6 month, mean daily calcium excretion fell by 32.9% in dietary restriction group, 37.3% in thiazide group, and 44.4% in indapamide group. The decrement was greater in indapamide group than thiazide group (p=0.017). After 12 month, mean daily calcium excretion fell by 31.6% in dietary restriction group, 34.4% in thiazide group, and 40.9% in indapamide group. There was no difference in daily urinary calcium excretion according to the dose of indapamide or thiazide. During follow-up period, microscopic hematuria improved in 23 patients (26.7%). After 3 year, 7 patients (33.3%) with osteopenia improved to normal bone mineral density, and 1 patient (16.7%) with osteoporosis improved to osteopenia.

Conclusion: The clinical manifestation of idiopathic hypercalciuria varied. It included hematuria, urinary stone, osteopenia, and osteoporosis. In women, high urinary calcium excretion was associated with increased prevalence of osteoporosis.

Key Words: 고칼슘뇨증, 칼슘 요 배설, 혈뇨
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