Abstract

Objectives: Urinary lithiasis has a multifactorial origin with participation of physical, chemical and anatomical factors. Physical-chemical factors of renal-prerenal origin are the consequence of exogenous or endogenous agents, which are integrated under the name of systemic diseases associated with urinary lithiasis. The objective of the urinary metabolic study is to know and to analyze the physical-chemical factors by which each of these diseases or clinical entities participate in the lithogenesis. Methods: We performed a study on 320 cases distributed in two groups: Group A: 70 healthy subjects without past medical history or family history of urinary lithiasis. Group B: 250 patients with history of renal lithiasis who had passed calculi spontaneously, after extracorporeal shock wave lithotripsy or surgery. Computerized urinary metabolic study (EMUSYS) was performed in all cases. Results: 24% of the patients in the control group presented one metabolic abnormality and 52% more than one; in group B, 17% of the patients presented one metabolic abnormality and 81% more than one. There were statistically significant differences in the percentage of hyperoxaluria, hipocitraturias and hyperalciurias. There were no differences in the subtypes of type III absorptive and excretory-resorptive hyperalciuria, hipomagnesiuria, and tubular acidosis, but these abnormalities were not detected in the control group. Moreover, some abnormalities were frequently observed in the control group, similarly to the patients group: enterorenal hyperuricosuria 34%, calcium super saturation 13%, elevated excretion of sodium chloride 14%, type II absorptive hyperalciuria a 8%, alimentary abnormalities, and low diuresis. Conclusions: People without lithiasis present biochemical urinary abnormalities in relation with life and alimentary habits similar to those found in patients, what concedes a role to the anatomical and hydrodynamical factors in lithogenesis. Patients with lithiasis present biochemical abnormalities such as calcium supersaturation, type II absorptive hyperalciuria, marginal absorptive hyperuricosuria, enterorenal hyperuricosuria, deficit of inhibitors, which may be controlled with adequate diet. Non dietetic hyperalciurias and hyperoxalurias, abnormalities of the urinary pH, and endogenous hyperuricosuria may be subject of diagnosis and treatment.

Keywords
Hyperalciuria. Hyperoxaluria.