

Metabolic Evaluation and Metaphylaxis in Patients Suffering from Urolithiasis

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Abstract. The formation of urinary calculi has to be regarded as a symptom of a complex disease. Thus, in addition to stone removal prevention of stone regrowth and recurrence as well as purposeful metaphylaxis are required. Although a new era has begun with the introduction of extracorporeal shock wave lithotripsy - often leading to residual stone fragments - and although minimal invasive stone treatment has become possible, metaphylaxis is a factor that should not to be neglected. The metabolic evaluation of the individual stone patient forms the basis for recommendations as to the metaphylactic measures to be taken; their extent is contingent on the stone composition. Since the nature of the urolith is a decisive factor, its analysis is the most important step to be taken prior to any kind of metaphylactic treatment. In principle, the formation of urinary calculi has to be considered as a multifactorial event, and it is therefore necessary to reveal renal malfunctions, disturbances in the transport or the composition of the urine by appropriate metabolic tests. On account of the frequency of the calcium oxalate stone disease, diagnosis of calcium metabolism is of particular importance here. For an efficient metaphylaxis in patients with solitary calcium oxalate stone occurrence it has proved sufficient to take the essential diagnostic measures. However, as far as recurrent calcium oxalate urolithiasis is concerned extended diagnostics is required; functional tests may be necessary. In patients suffering from uric acid-, cystine- or infection induced stone it has to be supposed that there are metabolic disorders underlying; it is therefore justifiable to make extended diagnostics. On account of the fact that most risk factors in urolithiasis relate to nutrition, appropriate change of nutrition has to be recommended as the essential metaphylactic measure. All other specific measures depend on the results of the metabolic evaluation.

Key words: Urolithiasis - Metabolic Evaluation - Metaphylaxis - Stone-regrowth - Stone recurrence