de La Guéronnière et al, 2011 - Increasing daily water intake decreases the kidney stone risk, measured by an indicator, the Crystallization Risk Index

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Introduction

Kidney stones affect around 10% of the population and the incidence is increasing in many countries. Medical expenditures due to this condition are very high and rising concomitantly. In most cases, prevention of stone recurrence is based on dietary advice. It has been observed that a sufficient water intake, producing at least 2L/d urine, dilutes urine and lowers kidney stone formation risk. The purpose of this study therefore was to measure the effects of a daily additional 2L of water on a kidney stone risk indicator, called the crystallization risk index. Forty-eight volunteers were divided into two groups, control and treated. Following a baseline observation period, the “treated group” drank an additional 2L/d water load, while the “control group” had their usual fluid intake. Treated and control volunteers were compared at the end of the study.

Key Findings

The crystallization risk index significantly decreased in the treated group with the additional water intake, compared with the control group. The absolute daily additional water intake was actually 1.3 L/d in the treated group, because volunteers decreased their other usual fluid sources.

Relevance for health

This study demonstrates that increasing daily water intake to 1.3 L/d, and thus urinary volume, reduces the crystallization risk index and thus kidney stone risk.

de La Guéronnière V, Le Bellego L, Jimenez IB, Dohein O, Tack I, Daudon M, Arch Ital Urol Androl. 2011;83(1):43-50.