

Lotan et al, 2012 – Primary prevention of nephrolithiasis is cost-effective for a national healthcare system



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Introduction

One of the major problems with nephrolithiasis is the high rate of recurrence, which can affect up to 50% of patients over a 5-year period. Patients with recurrent stones are recommended to increase fluid intake based on prospective studies that show a reduction in recurrence rates in patients who intake a high volume of water. Unfortunately, despite a high societal cost and morbidity, there are no prospective studies evaluating the benefit of fluid intake to prevent stone disease in subjects without a prior history of stone but at risk for stones. The goal of this study was to evaluate the financial impact of primary prevention of stones using a strategy of increased fluid intake. A Markov model was constructed and analysed using Excel to calculate and compare the costs and outcomes for a virtual cohort of subjects with low vs high water intake.

Key findings

The base-case analysis found that the total cost of urolithiasis is €4267 with direct costs of €2767, including cost of treatment and complications. The annual budget impact for stone disease based on 65 million inhabitants is €590 million for the payer. Use of high water intake by 100% of the population results in annual cost savings of €273 million and 9265 fewer stones. Even if only 25% of the population is compliant, there is still a cost saving of €68 million and 2316 stones.

Relevance for healthy hydration

The budget impact analyses show that prevention of nephrolithiasis can have significant cost savings for a payer in a healthcare system and reduce the stone burden significantly. Future studies will need to assess the feasibility and effectiveness of such an approach in a population.

Lotan Y, Buendia Jiménez I, Lenoir-Wijnkoop I, Daudon M, Molinier L, Tack I, Nuijten MJ, Primary prevention of nephrolithiasis is cost-effective for a national healthcare system. BJU Int. 2012 Jun 11. doi: 10.1111/j.1464-410X.2012.11212.x. [Epub ahead of print]