Correlating stone disease and smoking

Ben Chew, MD, FRCSC

Department of Urologic Sciences, University of British Columbia, Vancouver, BC

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The authors administered the long form of the International Physical Activity Questionnaire (IPAQ) to a cohort (n = 163) of patients suffering with recent symptomatic urolithiasis (RSU) (having had a stone episode within the last 6 months) and those who have had stones more than 6 months ago.[1] One point to consider is that all patients were kidney stone formers (either recent or previous). The authors found no difference between recent stone formers and previous stone formers in leisure time and physical activity (LTAP) scores. The only difference they found was that recent stone formers were 8.5 times more likely to be current smokers. As mentioned by the authors, the sample size was small and only 35% of the cohort suffered from RSU – most were previous stone formers.

This study correlated physical activity and smoking, which are two areas that have not been well studied in correlation with kidney stones. The fact that there was no difference in body mass index (BMI), water, salt, calcium, and vitamin D intake between the two groups highlights the fact that stone disease is a multifactorial disease. There has been evidence that lower water intake, higher salt intake, and higher BMI increases the risk of stone disease in patients who are susceptible. Calcium and vitamin D supplementation has been shown to confer a 17% risk of stone disease in the Women's Health Study.[2] Perhaps if the parameters for metabolic syndrome were also included, we would see if that correlated with active stone disease since there is very good evidence correlating the metabolic syndrome (hypertension, obesity, glucose intolerance, hyperlipidemia and low HDL) with stone disease. As stated by the authors, 85% of the population has been reported to fall below the recommended guidelines for physical activity. With such a high global non-compliance rate, one could argue that this current study is simply studying most patients who do not exercise enough. What is interesting is that current smokers were more likely to have recent kidney stones.

The largest limitation is the lack of a control group – a group of non-stone forming individuals in whom to compare risk factors. Presumably, these 2 groups under study are similar since they all have had stones and this could be a potential reason as to why there were no significant differences except for smoking status. What we can gather from this data is that there was no difference in water intake and physical activity among stone formers who have had recent stone activity within the last 6 months and those who had stones greater than 6 months ago. It would be interesting to see this type of data examined in the non-stone forming population for comparison. The biggest finding is that we can counsel patients to stop smoking since current smokers have an 8.5 times risk of having stones. There will be significant other added health benefits with smoking cessation as well.

Competing interests: Dr. Chew declares no competing financial or personal interests.

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Correspondence: Dr. Ben Chew, Department of Urologic Sciences, University of British Columbia, Level 6-2775 Laurel St., Vancouver, BC V5Z 1M9; ben.chew@ubc.ca