

Influential Nutrient in Urolithiasis Incidence: Protein or Meat?

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Abstract: Objective: We evaluated the relationship between dietary regimen and the incidence of urolithiasis in various regions.

Design: This was a population-based, cross-sectional study.

Setting: The setting involved 787 imaging centers in 12 socioeconomic regions in Iran.

Patients and Methods: Using a multistage, stratified sampling during 4 seasonal phases, 6127 cases of urolithiasis were detected from referrals to 787 radiology centers in 30 provinces across Iran. The dietary style of the provinces was obtained from an accredited registry, and its relationship with the incidence of urolithiasis in the same region was evaluated by meta-regression models.

Results: No significant relationship was detected between urolithiasis incidence and daily intake of calcium, sodium chloride, or dairy products in univariate models. In contrast, the daily consumption of meat and protein had a significant correlation with the regional incidence of urolithiasis. Meat consumption had a direct correlation with the incidence of urolithiasis. Protein intake had a significant U-shaped correlation with the incidence of urolithiasis, indicating a high incidence in regions with a high-protein diet, as well as with a low-protein diet. The proportion of meat consumption to total protein intake was similar in both regions, and higher than in regions with a medium-protein intake and low incidence of urolithiasis.

Conclusion: A high proportion of meat consumption, in conjunction with either a low or high total protein intake, was correlated with a high regional incidence of urolithiasis. (C) 2009 by the National Kidney Foundation, Inc. All rights reserved.

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