

Diet and risk of kidney stones in the Oxford cohort of the European Prospective Investigation into Cancer and Nutrition (EPIC).

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Abstract

The lifetime prevalence of kidney stones is around 10 % and incidence rates are increasing. Diet may be an important determinant of kidney stone development. Our objective was to investigate the association between diet and kidney stone risk in a population with a wide range of diets. This association was examined among 51,336 participants in the Oxford arm of the European Prospective Investigation into Cancer and Nutrition using data from Hospital Episode Statistics in England and Scottish Morbidity Records. In the cohort, 303 participants attended hospital with a new kidney stone episode. Cox proportional hazards regression was performed to calculate hazard ratios (HR) and their 95 % confidence intervals (95 % CI). Compared to those with high intake of meat (>100 g/day), the HR estimates for moderate meat-eaters (50-99 g/day), low meat-eaters (<50 g/day), fish-eaters and vegetarians were 0.80 (95 % CI 0.57-1.11), 0.52 (95 % CI 0.35-0.8), 0.73 (95 % CI 0.48-1.11) and 0.69 (95 % CI 0.48-0.98), respectively. High intakes of fresh fruit, fibre from wholegrain cereals and magnesium were also associated with a lower risk of kidney stone formation. A high intake of zinc was associated with a higher risk. In conclusion, vegetarians have a lower risk of developing kidney stones compared with those who eat a high meat diet. This information may be important to advise the public about prevention of kidney stone formation.

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