

Association of Body Mass Index and Food Intake with Renal Cell Carcinoma

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Abstract

Background and Objective: Renal Cell Carcinoma (RCC) accounts for approximately 90% of kidney cancer cases and its incidence rates have increased over recent years. Many studies have shown that high Body Mass Index (BMI) is positively associated with RCC. However the role of diet in etiology of RCC is controversial. The aim of this study was to identify the association of BMI and food intake with RCC.

Materials and Methods: Forty four patients with pathological confirmation of RCC and 84 controls matched with cases by sex, age (5-year age group) and smoking status, were recruited in this case-control study. General characteristics (including socioeconomic and health status, self-reported weight and height), physical activity and food frequency questionnaires were completed. The food items were classified into 29 groups. Statistical analyzing was done with SPSS-21.

Results: No association was found between BMI and RCC. The mean daily intake of egg differed significantly in two groups (30.7, 21.6 gram per day in cases and controls, respectively). When we analyzed the association of food groups with RCC, there was also a significant positive association between egg consumption and RCC (OR= 1.093, 95% CI=1.004-1.190). The mean daily intake of other food items, including cheese, cream, potato and sugar, was significantly higher. Whilst the mean daily intake of tomato, lentil and split peas was lower in cases than controls.

Conclusion: Our data shows that there is no significant association between BMI and RCC. A higher intake of egg, cheese, cream, milk, potato and sugar and lower intake of tomato, lentil, and split peas may increase the risk of RCC.

Keywords: Renal cell carcinoma, Body Mass Index, Food items, Food groups