Prediagnostic circulating adipokine concentrations and risk of renal cell carcinoma in male smokers

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Despite a well-established link between obesity and renal cell carcinoma (RCC), the mechanisms through which obesity acts to increase cancer risk are unclear. Adiponectin, leptin and resistin are adipocyte-secreted hormones that may influence RCC development through their demonstrated effects on inflammation, insulin resistance and cell growth and proliferation. We conducted a nested case–control study to evaluate whether prediagnostic serum adiponectin, leptin and resistin levels are associated with RCC risk. This case–control study (273 cases and 273 controls) was nested within the Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study cohort of Finnish male smokers. Odds ratios (ORs) and 95% confidence intervals (95% CIs) were estimated using conditional logistic regression models, with analyte levels modeled continuously (log) and categorically (defined using quartiles among controls). High adiponectin levels were significantly associated with reduced RCC risk (Quartile 4 versus Quartile 1: OR = 0.52, 95% CI = 0.30–0.88; *P* trend = 0.01). This association remained upon additional adjustment for body mass index, blood collection and exclusion of cases diagnosed within the first 2 years of foll [illegible] tion between BMI and RCC (OR per 5 kg/m^2 changed from 1.19 to 1.05). No clear associations with RCC were observed for leptin or resistin. Our results suggest that elevated levels of circulating adiponectin are associated with decreased obesity-related risk of RCC. These findings provide the strongest evidence to date, suggesting that the association between obesity and RCC is mediated at least in part through the effects of low adiponectin.

Introduction

[illegible] (1,2). [illegible] (3–9). [illegible] (10). [illegible] (11). [illegible] (11–13). [illegible]

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[illegible] 48 [illegible] 6.8, 6.6 [illegible] 12.1%, [illegible].

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Conflict of Interest Statement: .

Reference

1. . . *et al.* (2010) . *Nat. Rev. Urol.*, **7**, 245 257.
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