

Table 2.47. Case-control studies of Kidney Cancer

Reference, study location and period	Organ site (ICD code)	Characteristics of cases	Characteristics of controls	Exposure assessment	Exposure categories	Relative risk (95% CI)*	Adjustment for potential confounders	Comments
Parker <i>et al.</i> , (2003) Iowa, USA, 1985–87 Population-based	Kidney parenchymal cancer (RCC) (ICD9 189.0)	1097 cases with histological confirmed RCC cancer identified through SEER and other sources. N=406 out of 463 eligible were interviewed (88%).	Randomly selected from state driver's licence records and US Health Care Financing Administration. N= 2434 out of 3035 were interviewed (80%).	Mailed standardized questionnaire	Years since quitting Current smoker <10 10-19 20-29 ≥30 Never smoker <i>p</i> for trend	1.0 0.7 (0.4–1.1) 0.8 (0.5–1.2) 0.7 (0.4–1.1) 0.5 (0.3–1.0) 0.6 (0.4–0.9) 0.005	Age, sex, BMI, pack-years of smoking	
Hu <i>et al.</i> , (2005) Eight Canadian provinces, 1994–1997 Population-based	Kidney parenchymal cancer (RCC) (ICD–O–2 C64)	2199 eligible cases with histological confirmed RCC cancer. Questionnaires sent to 1873, 1497 completed (68% response rate)	Random samples of the population recruited through different types of registers or random digit dialling. Frequency matched to cases by age and gender. Of 8117 questionnaires sent, 5380 were completed (66%)	Mailed standardized questionnaire	Never smoker <i>Men</i> Former smoker Current smoker <i>p</i> for trend <i>Women</i> Former smoker Current smoker <i>p</i> for trend Intensity (cigs/day) <i>Men</i> Never smoker ≤9 10-19 20-29 ≥30 <i>p</i> for trend <i>Women</i> Never smoker ≤9 10-19 ≥20 <i>p</i> for trend	1.0 1.2 (1.0–1.5) 0.9 (0.7–1.2) 0.79 1.0 1.3 (1.0–1.6) 0.9 (0.7–1.2) 0.75 1.0 1.4 (1.0–2.0) 1.0 (0.8–1.3) 1.2 (0.9–1.5) 1.4 (1.0–2.0) 0.13 1.0 1.1 (0.8–1.5) 1.0 (0.8–1.3) 1.4 (1.1–1.8) 0.03	Age, BMI, residence, alcohol, meat intake, fruit and vegetable intake	

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Hu <i>et al.</i> (2005) (contd)	Kidney parenchymal cancer (RCC) (ICD-O-2 C64)	2199 eligible cases with histological confirmed RCC cancer. Questionnaires sent to 1873, 1497 completed (68% response rate)	Random samples of the population recruited through different types of registers or random digit dialling. Frequency matched to cases by age and gender. Of 8117 questionnaires sent, 5380 were completed (66%)	Mailed standardized questionnaire	Duration <i>Men</i> Never smoker <10 years 11-20 21-30 31-40 ≥40 p for trend <i>Women</i> Never smoker <10 years 11-20 21-30 ≥31 p for trend Years since quitting <i>Men</i> ≤10 11-20 21-30 ≥30 p for trend <i>Women</i> ≤10 11-20 ≥20 p for trend (never smoker reference category)	1.0 0.9 (0.6-1.2) 1.1 (0.8-1.4) 1.5 (1.1-2.0) 1.2 (0.9-1.6) 1.1 (0.8-1.5) 0.05 1.0 0.9 (0.7-1.3) 1.2 (0.9-1.7) 1.2 (0.9-1.6) 1.2 (1.0-1.6) 0.05 1.5 (1.0-2.3) 1.1 (0.8-1.5) 1.2 (0.8-1.6) 1.0 (0.7-1.4) 0.001 1.5 (0.8-2.6) 0.6 (0.4-1.1) 1.1 (0.7-1.6) 0.47	Age, BMI, residence, alcohol, meat intake, fruit and vegetable intake	

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Brennan <i>et al.</i> , (2008) Seven centres in Centra-Eastern Europe, 1999-2003 Hospital-based	Kidney parenchymal cancer (RCC) (ICD-O-2 C64)	1097 cases with histological confirmed RCC cancer. Response rates in the range 90-98%	Cancer-free subjects recruited at same hospitals as the cases, with conditions unrelated to smoking (N=1476). Response rates in the range 90-96%	Interviewer-administered standardized questionnaire	<p><i>Men</i></p> <p>Never smoker Former smoker Current smoker</p> <p><i>Women</i></p> <p>Never smoker Former smoker Current smoker</p> <p>Pack-years</p> <p><i>Men</i></p> <p>Never smoker <17 17-31 >31 p for trend</p> <p><i>Women</i></p> <p>Never smoker <17 17-31 >31 p for trend</p>	<p>1.0</p> <p>0.89 (0.68–1.17)</p> <p>0.99 (0.76–1.29)</p> <p>1.0</p> <p>1.07 (0.69–1.67)</p> <p>0.70 (0.48–1.02)</p> <p>1.0</p> <p>0.94 (0.70–1.26)</p> <p>1.0 (0.75–1.34)</p> <p>0.89 (0.67–1.19)</p> <p>0.49</p> <p>1.0</p> <p>0.76 (0.52–1.11)</p> <p>0.99 (0.59–1.65)</p> <p>0.85 (0.40–1.78)</p> <p>0.34</p>	Age, BMI, hypertension, country	Pack-years used instead of intensity

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Theis <i>et al.</i> , (2008) Florida, 2000–2004 Population-based	Histologically confirmed RCC	304 cases out of 417 contacted (response 73%), plus 27 additional cases from local hospitals	Controls frequency matched by age, gender and race, sampled through random-digit dialing. 337 recruited out of 801 eligible (42%)	Interviewer-administered, standardized questionnaire	<p>Pack-years</p> <p>Never smoker</p> <p><5</p> <p>5-<10</p> <p>10-<20</p> <p>20+</p> <p>p for trend</p> <p>Duration</p> <p>Never smoker</p> <p>1-10 years</p> <p>11-20</p> <p>21-30</p> <p>31-40</p> <p>41-50</p> <p>51+</p> <p>p for trend</p> <p>Years since quitting</p> <p>1-10</p> <p>11-20</p> <p>21-30</p> <p>31-40</p> <p>41-50</p> <p>51+</p> <p>p for trend</p>	<p>1.0</p> <p>0.68 (0.40–1.15)</p> <p>0.62 (0.31–1.27)</p> <p>1.11 (0.64–1.92)</p> <p>1.35 (0.93–1.95)</p> <p>0.014</p> <p>1.0</p> <p>0.52 (0.29–0.93)</p> <p>0.73 (0.42–1.28)</p> <p>1.19 (0.71–1.99)</p> <p>1.87 (1.12–3.13)</p> <p>1.05 (0.60–1.84)</p> <p>1.05 (0.54–2.04)</p> <p>0.055</p> <p>1.0</p> <p>0.39 (0.18–0.85)</p> <p>0.24 (0.11–0.52)</p> <p>0.28 (0.13–0.61)</p> <p>0.23 (0.09–0.58)</p> <p>0.11 (0.03–0.39)</p> <p><0.001</p>	Age, gender, ethnicity, BMI	