Obesity Plus Hypertension Ups Renal Cancer Risk

BY JEFF EVANS
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Obesity and hypertension may interact to increase the risk of renal cell carcinoma to a greater degree than does either factor alone, according to results of a case-control study.

The findings "suggest synergistic action between obesity and elevated blood pressure, implying that control of either could be effective in lowering RCC risk," wrote Kaye E. Brock, Ph.D., of the University of Sydney and her associates (Obesity Res. Clin. Pract. 2007;1:147-53).

Of the many case-control studies that have investigated the relationship among RCC, obesity, and hypertension, only two have reported synergism between hypertension and body mass index (BMI).

Lipid peroxidation in hypertensive and overweight patients has been proposed to explain the associations of obesity and hypertension with RCC because of its occurrence in clinical findings, animal models, and human renal cell tissue. Renal DNA is known to react with by-products of lipid peroxidation to form adducts, which, without proper DNA repair, may lead to carcinogenesis, the investigators said.

Dr. Brock and her colleagues compared 373 patients, who had histologically confirmed RCCs identified by the State Health Registry of Iowa during 1985-1987, with 2,250 population-based controls, who were matched to the cases by gender and 5-year age groupings. Overall, 99% of the patients were white and had an age range of 40-85 years.

The researchers found that hypertension was associated with significantly higher odds (odds ratio 1.74) of developing RCC after adjustment for BMI, whereas BMI also was associated with significantly higher odds (OR 1.82) of developing RCC after adjusting for hypertension.

Risk of RCC steadily rose as BMI (kg/m^2) increased in patients with hypertension. At an age of 20 years or 40 years, patients with both hypertension and obesity (BMI of 30 and higher) were more than four times as likely to develop RCC as were patients with normal weight and blood pressure at those ages. Hypertensive and obese patients at 60 years of age were more than twice as likely to develop RCC.

But there was little increase in the risk of RCC as the severity of obesity rose in patients with normal blood pressure.

Each analysis was adjusted for age, gender, and pack-years of smoking. A proxy respondent filled out a questionnaire on behalf of some patients because of death or illness, so the investigators also adjusted each analysis for proxy status. ■

Sleep Deprivation May Raise Obesity Risk in Children

MAUI, HAWAII — There is increasing evidence that sleep deprivation might be related to the risk of obesity and insulin resistance in children, according to Dr. Sally Ward, head of pediatric pulmonology at Childrens Hospital Los Angeles.

"And having children sleep more might certainly be an easier intervention than some of the other things that we use to help with obesity," she said at a meeting sponsored by the University Childrens Medical Group and the American Academy of Pediatrics.

Dr. Ward cited a recent study in which obese children with fewer than 6 hours of sleep on an overnight sleep study had increased insulin resistance, compared with children with equivalent body mass indices who had more than 6 hours of sleep (J. Pediatr. 2007;150:364-9). "So a high-risk group for insulin insensitivity can be made at further risk by sleep deprivation," she noted at the meeting, also sponsored by the California Chapter of the AAP.

A large cross-sectional study of Japanese children showed that children with fewer than 8 hours of sleep were three times more likely to be obese than were children who had 10 hours or more of sleep (Child Care Health Dev. 2002;28:163-70).

She also referred to a prospective study of 150 children, from birth to 9.5 years, in which less sleep time in childhood was found to be an independent risk factor for obesity, along with parental overweight and lack of concern about the child's size (J. Pediatr. 2004;145:20-5).

—Carolyn Sachs