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Investigating paraoxonase-1 gene Q192R and L55M polymorphism in patients with renal cell cancer

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ABSTRACT. Increased oxidative stress can help promote carcinogenesis, including development of renal cell carcinoma. The enzyme protects low-density lipoproteins from oxidation and can be a factor in this process. PON1 Q192R and L55M paraoxonase gene polymorphisms were assessed in 60 renal cell carcinoma patients and 60 healthy controls. Genotypes were examined by PCR; the restriction enzyme *Alw*I was used to examine the Q192R polymorphism and *Hsp*92II for the L55M polymorphism. Significant differences in the PON1 Q192R polymorphism were found between patients and controls. The Q allele was more frequent in the patient group than in controls, while the R allele was more frequent in the control group. No significant differences were found in the L55M polymorphism. Additionally, there were no significant differences in L and M allele frequencies. We conclude that the R allele may protect against renal cell carcinoma.

Key words: Renal cell carcinoma; Q192R polymorphism; Paraoxonase; L55M polymorphism

