



Correlation between the development of calcium oxalate stones and polymorphisms in the fibronectin gene in the Uighur population of the Xinjiang region of China

M. Murat¹, A. Aekeper¹, L.Y. Yuan¹, T. Alim¹, G.J. Du¹, A. Abdusamat¹,
G.W. Wu¹ and Y. Aniwer²

¹Department of Urology, The Second Affiliated Hospital of Xinjiang Medical University, Urumqi, Xinjiang, China

²Department of Urology, The First Affiliated Hospital of Xinjiang Medical University, Urumqi, Xinjiang, China

Corresponding author: Y. Aniwer
E-mail: xjammt_l@163.com

Genet. Mol. Res. 14 (4): 13728-13734 (2015)

Received May 19, 2015

Accepted July 14, 2015

Published October 28, 2015

DOI <http://dx.doi.org/10.4238/2015.October.28.35>

ABSTRACT. Here, we have investigated the correlation between calcium oxalate stone formation and *Fn* gene polymorphisms in urinary calculi patients among the Uighur population (Xinjiang region). In this case control study, genomic DNA extracted from the peripheral blood of 129 patients with calcium oxalate stones (patient group) and 94 normal people (control group) was used to genotype polymorphisms in the rs6725958, rs10202709, and rs35343655 sites of the *Fn* gene by polymerase chain reaction-restriction fragment length polymorphism. Subsequently, the association between different genotypes and susceptibility to calcium oxalate stone formation was compared among the patient and control groups. Single nucleotide polymorphisms (SNPs) were detected in the rs6725958, rs10202709, and rs35343655 sites of the *Fn* gene among the patient and control groups. The genotype distributions of the three

loci complied with the Hardy-Weinberg equilibrium. The results of allele frequencies of the patient/control group for polymorphisms in the rs6725958 site of the *Fn* gene were C = 179 (69.92%)/119 (63.30%) and A = 77 (30.08%)/69 (36.70%), in the rs10202709 site were C = 245 (95.70%)/176 (93.63%) and T = 11 (4.30%)/12 (6.38%), and in the rs35343655 site of the *Fn* gene were A = 139 (54.30%)/87 (46.28%) and G = 117 (45.70%)/101 (53.72%). We observed no significant differences between the three SNPs and development of calcium oxalate stones. Polymorphisms in rs6725958, rs10202709, and rs35343655 of the *Fn* gene had no obvious effect on the susceptibility to the development of calcium oxalate stones in the Uighur population, residing in the Xinjiang region of China.

Keywords: Calcium oxalate stones; Fibronectin; Gene polymorphism; Uighur