Association of the *IGF-1* rs35767 and rs972936 polymorphisms with the risk of osteoporosis in a Chinese postmenopausal female population

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ABSTRACT. The aim of our study was to conduct a case-control study in a Chinese postmenopausal population to evaluate the roles of the *IGF-1* rs35767 and rs972936 polymorphisms on bone mineral density (BMD) levels and osteoporosis risk. A total of 272 consecutive postmenopausal women with a primary diagnosis of osteoporosis and 272 controls were enrolled in the study between 2012 and 2014. The polymerase chain reaction-restriction fragment length polymorphism method was used to genotype the rs35767 and rs972936 *IGF-1* polymorphisms. By comparing the demographic characteristics between patients and controls, patients with osteoporosis were found to be more likely to have a habit of alcohol drinking (P = 0.023). Furthermore, the BMD levels of the L_1-L_4 vertebrae, femoral necks, total hips, and trochanters in patients with osteoporosis were significantly lower than those in controls. By conditional regression analysis, we found that the *IGF-1* rs2288377 and rs972936 gene polymorphisms

were not associated with the risk of osteoporosis ($P < 0.05$). However, the CT+TT genotype of rs35767 and the AG+GG genotype of rs972936 were significantly associated with lower BMD levels in the femoral neck. Overall, our study suggests that *IGF-1* rs2288377 and rs972936 gene polymorphisms do not influence the risk osteoporosis.

Key words: Insulin-like growth factors; Polymorphism; Osteoporosis; Postmenopausal female

