Association analysis between the OPG g.27667T>A genetic variant and bone mineral density in Chinese postmenopausal women

J.J. Zhao, D.H. Feng, L. Cheng, T. Lu and L. Wang

Department of Orthopedics, The Wuxi People’s Hospital, Wuxi, Jiangsu Province, China

Corresponding author: J.J. Zhao
E-mail: jijun_zhao@sina.cn

Received March 26, 2013
Accepted July 26, 2013
Published March 24, 2014
DOI http://dx.doi.org/10.4238/2014.March.24.16

ABSTRACT. The purpose of this study was to investigate the association of the g.27667T>A genetic variant in the osteoprotegerin (OPG) gene with bone mineral density (BMD) and osteoporosis. A total of 393 primary osteoporosis subjects and 402 healthy controls were recruited. The BMD of the femoral neck hip, lumbar spine (L_2-4), and total hip were evaluated by Norland XR-46 dual-energy X-ray absorptiometry. The g.27667T>A genetic variant was genotyped using created restriction site-polymerase chain reaction. Our data indicated significant differences in BMD of the femoral neck hip, lumbar spine (L_2-4), and total hip among different genotypes. Individuals with the genotype TT had significantly higher BMDs than those of genotypes TA and AA (P < 0.05). Results from this study suggest that the g.27667T>A genetic variant in the OPG gene is potentially related to BMD and osteoporosis in Chinese postmenopausal women.

Key words: Osteoprotegerin gene; Genetic variants; Osteoporosis; Bone mineral density