中文題目：停經後婦女骨質疏鬆症病人增加週邊血液之最終糖化產物濃度

英文題目：Increased levels of circulating advanced glycation end-products in menopausal women with osteoporosis

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Background: Advanced glycation end-products (AGEs) can accumulate in organs and tissues during ageing and diabetes. Increased levels of AGEs are found in the bone tissue of patients with osteoporosis. The purpose of this study was to evaluate circulating AGEs in patients with osteoporosis.

Materials and Methods: We evaluated plasma AGEs, osteoporosis-related biomarkers, and bone mass in 82 menopausal women with osteoporosis or osteopenia, 16 young women with osteopenia, and 43 healthy women without osteoporosis or osteopenia.

Results: Higher levels of serum AGEs were found in the osteoporosis or osteopenia group compared to healthy women (P = 0.004). A negative correlation was observed between serum AGEs and lumbar spine bone density (BMD of lumbar spine, r = -0.249, P = 0.028; T-score of lumbar spine, r = -0.261, P = 0.021). Women with a high level of serum AGEs (>16.22 U/mL) had a 9.41-fold risk of osteopenia regarding lumbar spine T-score and a 2.81-fold risk of osteopenia regarding the hip T-score. No significant correlation was found between AGEs and age (P = 0.087) or serum estrogen (P = 0.823).

Conclusion: Serum AGEs could be used to monitor the severity and progression of osteoporosis. An increased serum level of AGEs was associated with impaired bone formation and was a risk factor for the development of osteoporosis. Targeting AGEs may represent a novel therapeutic approach for primary or secondary osteoporosis.