

中文題目：週邊血液最終糖化產物與類風濕性關節炎之疾病活性相關

英文題目：Circulating advanced glycation end-products associated with the disease activity of rheumatoid arthritis

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## ABSTRACT

### Objectives:

Advanced glycation end-product (AGE) is a non-enzymatic glycation protein product, and generation involves steps in the classical Maillard reaction and the polyol pathway between glucose and proteins. Elevated AGEs levels are found in the serum or plasma of patients with rheumatic diseases. We aimed to evaluate levels of serum AGEs in the rheumatoid arthritis (RA) patients.

### Methods:

The study sample included 70 patients with RA and 55 healthy controls. We evaluated the levels of serum AGEs and bone density. The disease activity of RA was also evaluated by disease activity score (DAS). All RA patients were divided to four groups by DAS: remission ( $< 1.6$ ,  $n=15$ ), low disease activity ( $1.6$  to  $2.4$ ,  $n=15$ ), moderate disease activity ( $2.4$  to  $3.6$ ,  $n=13$ ) and high disease activity ( $> 3.6$ ,  $n=27$ ).

### Results:

Lower bone mineral density (BMD) was observed in the patients with RA when compared with healthy controls (BMD of lumbar spine:  $0.87 \pm 0.15$  vs.  $1.09 \pm 0.14$ ,  $P < 0.0001$ ; BMD of total hip:  $0.77 \pm 0.15$  vs.  $0.89 \pm 0.14$ ;  $P < 0.0001$ ). There was no significant correlation between circulating AGEs levels and BMD including T-score of lumbar, BMD of lumbar spine, T-score of total hip and BMD of lumbar spine.

There was a significant positive correlating between serum AGEs levels and DAS28 ( $r=0.269$ ,  $P=0.047$ ). Serum AGEs levels were associated with ESR ( $r=0.287$ ,  $P=0.033$ ), but not with CRP ( $r=-0.014$ ,  $P=0.919$ ), anti-CCP antibodies ( $r=0.109$ ,  $P=0.441$ ) or RF ( $r=-0.060$ ,  $P=0.665$ ).

### Conclusions:

A higher prevalence of osteoporosis or osteopenia was found in the patients with RA. There was no significant correlation between circulating AGEs levels and bone density. Serum AGEs levels were associated with the disease activity of RA. Therefore, AGEs could be suggested as a marker of disease activity