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Tocilizumab improves left ventricular mass and cardiac output in patients with rheumatoid arthritis

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Background: Rheumatologists need to develop primary prevention strategies for cardiovascular disease (CVD) in rheumatoid arthritis (RA) patients. We reported tocilizumab (TCZ) improved arterial stiffness as well as etanercept and adalimumab. There is no evidence that TCZ effects on left ventricular (LV) morphology and function.

Objective: To study the effect of TCZ plus methotrexate (MTX) on LV morphology and function in MTX resistant active RA patients, in a cohort study design.

Methods: RA patients were eligible if they had active disease despite treatment with MTX. All patients have no steroids, and no previous history of CVD. Consecutive 23 patients with moderate to severe active RA patients (DAS28>3.2) despite MTX received TCZ plus MTX. LV morphology and function was assessed with cardio-MRI at baseline and 24 weeks follow-up was done. Cardiovascular risk factors and clinical data were collected at regular visits.

Results: 21 patients completed 24 weeks. Left ventricular mass index (LVMI) was attenuated significantly by TCZ (week 0-week24, −18.8±6.9 g/m^2; p=0.0002).Cardiac output (CO) was attenuated significantly by TCZ (week 0-week 24, -0.98±1.4l/min). DAS28 and CRP improved significantly by TCZ (week 0-week 24; DAS28: -2.35±0.85; CRP: 24.3±7.2 mg/l) (p<0.05). Surprisingly, the change of disease activity (DAS 28 and CRP) has no correlation with the change of LVMI or CO in this study.

Conclusions: TCZ improved LVMI and CO in active RA despite interleukin (IL) 6 might play an important role in LV hypertrophy. TCZ, anti- Interleukin (IL)6 receptor antibody, may prevent cardiovascular morbidity and mortality in RA.

Biography

Kensuke Kume is currently working as a Chief of Department of Rheumatology, Hiroshima Clinic, Hiroshima, Japan. He graduated in 1991 at Hiroshima University. He worked as a clinical fellow in 2000 at Romalinda University. His Specialties includes rheumatoid arthritis, osteoporosis. His research interests include biologics effect on cardio-vascular system.

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