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MEETING ABSTRACT

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Vascular and metabolic effects of anti-TNFα biologics in rheumatoid arthritis

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Background: Cardiovascular (CV) morbidity and mortality are increased in patients with rheumatoid arthritis (RA). Biologics may influence vascular function and lipids in RA, however, most studies have been short-term and less information has become available on etanercept (ETN) and certolizumab pegol (CZP). We wished to determine the effects of these TNFα blockers on common carotid intima–media thickness (ccIMT), brachial artery flow-mediated, endothelium-dependent vasodilatation (FMD) and the arterial stiffness marker pulse wave velocity (PWV) in context with laboratory assessments in RA patients after 12 months of biological therapy.
Methods: Twenty-six patients (22 female, 4 male) were studied. They received either ETN or CZP for 12 months. Brachial and carotid ultrasonography was performed to determine FMD, ccIMT and PWV, respectively. We also assessed immunological, inflammatory and metabolic laboratory markers.
Results: At baseline, mean ccIMT was 0.56 mm (normal range: 0.4–0.9 mm), mean FMD was 6.5% (normal: >10%), and the mean PWV was 8.4 m/s (normal range: 4–20 m/s). At baseline, ccIMT correlated with disease duration ($r = 0.446$, $p = 0.015$), while FMD and PWV did not. ccIMT ($r = 0.393$, $p = 0.023$) and PWV ($r = 0.511$, $p = 0.005$) also correlated with age at RA onset. PWV correlated with serum triglyceride levels. After 12 months of anti-TNFα treatment, DAS28 ($p < 0.001$), CRP ($p = 0.004$), FMD ($p = 0.04$) and PWV ($p = 0.035$) significantly improved.
Discussion: In patients with RA, FMD, a marker of endothel dysfunction, and PWV, a marker of arterial stiffness, significantly improved after 12 months of anti-TNFα treatment with ETN or CZP, whereas ccIMT may require more time to improve.
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