A139 TUMOUR NECROSIS FACTOR ANTAGONISTS AND TOCILIZUMAB HAVE A HIGHER IMPACT ON RHEUMATOID ARTHRITIS OSTEOCLASTOGENIC STIMULI THAN METHOTREXATE

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Background Rheumatoid arthritis (RA) is a systemic disease characterised by hyperactivation of the immune system leading to chronic inflammation and joint damage. The inflammatory environment potentiates bone resorption, modulating the balance between RANKL and osteoprotegerin (OPG). Prednisone (PDN), methotrexate (MTX), anti-tumour necrosis factor (TNF) and anti-interleukin 6 (IL6) receptor therapies reduce disease activity, but their differential biological impact is still unclear.
Objectives The aim of this work was to compare the cytokine profile in RA patients treated with PDN, MTX and biological treatments (TNF antagonists and tocilizumab).
Methods Cytokines in serum and synovial fluid from 40 female RA patients treated with PDN, MTX and biological therapies were assayed by ELISA or by a multiplex bead-based immunoassay. Patients were evaluated for disease activity.
Results DAS28 was 3.26 in biological-treated patients, 4.85 in patients treated with MTX and 5.31 in the corticosteroid group. Disease activity was significantly lower in the biological-treated group ($p<0.05$) and statistical analysis was corrected for these differences. MTX-treated patients had lower levels of sinovial pro-inflammatory and pro-osteoclastogenic proteins (IL6, IL17, MCP-1, IL18 and MIP-1α) compared with patients exposed only to PDN. Biological-treated patients had significantly decreased circulating levels of IL10, IL8 and MIP-1α compared with the other groups. IL6 was undetectable in the circulation of the majority of the patients except in those treated with tocilizumab. Of interest, anti-TNF and tocilizumab-treated patients had a significantly reduced sRANKL/OPG ratio regardless of disease activity when compared with MTX and corticosteroid-treated patients. No difference was observed between anti-TNF and tocilizumab-treated patients.
Conclusion MTX and biological therapies have a major effect on inflammatory cytokines. However, TNF antagonists and tocilizumab are associated with a larger decrease in the sRANKL/OPG ratio which is independent of disease activity, suggesting a better control of the osteoclastogenic stimuli.