The role of interleukin 6 (IL-6) in rheumatoid arthritis (RA)

IL-6 is a chemical messenger in the body, known as a cytokine, which contributes to the painful and persistent joint damage and chronic inflammation that people with RA suffer.\textsuperscript{1,ii} In people with RA, excess levels of IL-6 are produced,\textsuperscript{i} particularly in the thin tissue layer covering the joint.\textsuperscript{ii}

Wider effects of IL-6

It is thought that excess IL-6 levels also lead to a range of complications in patients with RA, including anaemia, fatigue, depression and mood disorders, weight loss, increased risk of cardiovascular disease and osteoporosis.\textsuperscript{i,ii,iii}

Excess levels of IL-6 can be associated with systemic inflammation in the context of uncontrolled active disease, which has been linked to a higher risk of cardiovascular disease in patients with RA. The increased production of a protein in the blood, called C-reactive protein (CRP), may serve as a potential marker for this increased cardiovascular risk and can be measured.\textsuperscript{iv}

Excess IL-6 may also cause anaemia, a condition in which the body lacks haemoglobin.\textsuperscript{v,vi} This lowers the capacity of the blood to carry oxygen around the body, which can result in tiredness and fatigue.\textsuperscript{vii}

High IL-6 levels may also cause permanent damage of bone and cartilage, as it encourages the body to increase bone resorption and blocks new bone tissue formation.\textsuperscript{v,vi,ix}

Targeting IL-6

RoACTEMRA (tocilizumab, ACTEMRA outside the EU) is the first treatment for RA which targets IL-6. It blocks the activity of IL-6 receptors, reducing its impact and preventing the progression of RA both in the joints and throughout the body.\textsuperscript{v} Clinical trials evaluating the efficacy and safety of RoACTEMRA demonstrate rapid improvements in disease signs and symptoms plus effective control of inflammation.\textsuperscript{vi,ix,xi,xx,xxi}
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