Effects of adenosine receptors stimulation on cytokine levels in vitro

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We studied cytokine levels in normal human peripheral blood monocytes stimulated by 30 μM adenosine analog NECA. For measurement of mRNA of pro- and anti-inflammatory cytokines (IL-1β, IL-6, IL-8, IL-10) and factors regulating angiogenesis and fibrogenesis (IP-10, FGFβ, TGFβ, VEGF), real-time PCR was used. The concentration of cytokines in monocyte conditioned culture medium was measured by ELISA. Results. NECA stimulated monocytes expressed higher levels of proinflammatory cytokines mRNA (IL-1β, IL-6, IL-8) and mRNA of factors regulating angiogenesis and fibrogenesis (VEGF, FGFβ, IP-10). In addition, stimulated monocytes secreted higher levels of VEGF. Thus, stimulation of monocyte adenosine receptors during initial phases of tissue alteration skews cytokines profile towards inflammation, remodeling and regeneration. (Cytokines and Inflammation. 2014. Vol. 13. № 1. P. 67–70.)

Key words: adenosine, monocytes, cytokines.