Cytokine-producing ability of peripheral blood mononuclear cells (MNCs) was studied in 44 patients with metabolic syndrome (MS) (23 men and 21 women aged from 48 to 64 years, body mass index from 35.6 to 42.4). Pro- and anti-inflammatory cytokines (TNFα, IFNγ, IL-1, IL-2, IL-6, IL-4, IL-8, IL-10 and IL-17) production by MNCs was estimated by ELISA in cell culture supernatants. The results indicate increased MNCs ability to spontaneous production of pro-inflammatory cytokines (TNFα, IL-1, IL-6, IL-8 and IL-17) with relatively low levels of their mitogen-induced secretion. This fact may be due to lower MNCs reserve capacity to produce inflammatory mediators in consequence of chronic disease. Functional MNCs deficiency in patients with MS was also confirmed by the reduced ability to secrete (spontaneously and after induction with PHA) IL-2, principal T lymphocyte growth and differentiation factor. The results suggest a significant change in functional activity in chronic inflammation in patients with MS. (Cytokines and Inflammation. 2013. Vol. 12. № 3. P. 62–66.)

Key words: peripheral blood mononuclears, metabolic syndrome, cytokines.