Abstract

Neutrophil granulocytes – white blood cells are very effective in fight against pathogens with fagocytosis, degranulation, or NETosis, which is special form of cell death. During NETosis are created neutrophil extracellular traps, which can trap and destroy microorganisms with antimicrobial granules. NETosis can be iniciated by activation of pro-inflammatory cytokines, lypopolysacharides or phorbomystatic acid. Activated neutrophils get to the site of inflammation, where decondensed chromatin, part of NETs, gets into extracellular space. DNA in extracellular space is strong alarmin for immune system as part of NETs. Increased NETs production or problem with their elimination can play role in patogenesis of some autoimmune diseases (eg. Systematic lupus erythematodes, associated vasculitis, rheumatoid arthritis, diabetes mellitus). NETs production or their components can affect diseases or degree of damage to the surrounding tissue. It also correlates with seriousness of disease (eg. Associoated vasculitis) and can have diagnostical potencial (eg. Asociated vaskuloitides, rheumatoid arthritis or diabetes mellitus type 1).

Keywords: NETosis, NETs, neutrophils, autoimmune diseases, immune system