Abstract:
To study secretion patterns of pro- and anti-inflammatory cytokines, and activation of various cellular subsets of leukocytes in peripheral blood. We have conducted a prospective observational study. One hundred and eight patients with a diagnosis of acute pancreatitis and onset of the disease within last 72 h were included in this study. The mRNA expression of 25 different types of cytokines in white blood cells was determined by quantitative real time polymerase chain reaction. Levels of 8 different cytokines in blood serum were measured by enzyme linked immunosorbent assay. Clinical data and cytokine expression results were subjected to statistical analysis. Severe and necrotizing acute pancreatitis (AP) is characterized by the significant depletion of circulating lymphocytes. Severe acute pancreatitis is associated with a typical systemic inflammatory response syndrome and over-expression of pro-inflammatory cytokines [interleukin (IL)-6, IL-8, macrophage migration inhibitory factor (MIF)]. Serum IL-6 and MIF concentrations are the best discriminators of severe and necrotizing AP as well as possible fatal outcome during the early course of the disease. Deregulation of cellular immune system is a key event leading to severe and necrotizing AP. IL-6 and MIF could be used as early predictors of complications.