The purpose of the bachelor thesis is to evaluate serum amyloid (SAA) as a diagnostic marker in selected patient groups and to compare the results of SAA with those of C-reactive protein (CRP) and procalcitonin (PCT). SAA, CRP and PCT are acute-phase proteins, whose blood concentration significantly increases within a few hours after an inflammatory stimulus. The synthesis, caused by proinflammatory cytokines, takes place in the liver. CRP is the most and longest used acute-phase reactant in routine practice. As indicators of inflammation, SAA and especially procalcitonin have been used more lately. Although SAA is an acute-phase reactant as sensitive as CRP, it is not employed so often in the diagnosis since a method suitable for routine diagnosis was not developed until recently.
Briefly describing the acute-phase proteins, the theoretical part elaborates on the characterization and comparison of SAA, CRP and PCT. It further outlines methods for the determination of individual analytes. The experimental part focuses on defining selected patient groups and the immunonephelometric method for measuring SAA by the Immage 800 biochemical analyzer. The data obtained in three selected patient groups have been statistically evaluated. The aim of the thesis has been to evaluate the correlation of inflammatory markers in two selected groups and to compare the CRP and SAA levels in the third group consisting of obese female patients and a healthy control group.