Cardiosurgery is a potent activator of the immune response similar to sepsis in critically ill patients. Therefore the differential diagnostics of infectious and non-infectious etiology plays an important role. The aim of the study was to compare the biomarkers in the diagnostics of patients after cardiosurgery and in septic patients. 24 patients fulfilling criteria of sepsis and 8 patients after cardio surgery were involved in the study. We demonstrated higher specificity and sensitivity of PCT in comparison with CRP at diagnostics of sepsis. sTREM-1, expression of TREM-1 on monocytes, TREM-1 on granulocytes and the number of FoxP3+T regulatory lymphocytes do not provide a reliable differential diagnostics of infectious and non-infectious etiology of examined group of the patients. The number of lymphocytes in patients with sepsis is a useful parameter at this diagnostics. Cardiosurgery represent a significant impulse for the evocation of the systemic inflammatory response of non-infectious etiology.