Reflections of interleukin 33, Fetuin A and Cytokeratin 18 in pericardium and plasma in patients with coronary artery disease

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Abstract

Background: Interleukin 33, Fetuin A and Cytokeratin 18 are important inflammatory mediators in coronary artery diseases; however, although the plasma levels of these markers are generally used for the evaluation, their pericardial levels have not been explored. This study aims to determine the pericardial behavior of these mediators in coronary artery diseases and their regression to plasma. **Methods:** The gene expression and protein levels of interleukin 33, Fetuin A and Cytokeratin 18 in plasma and pericardial fluid were investigated in 40 patients undergone coronary bypass surgery. **Results:** According to ELISA findings, Interleukin 33 and Fetuin A protein levels have been found to be significantly increased in pericardial fluid compared to plasma, $p<.05$. Although cytokeratin 18 protein level was also dramatically increased in pericardial fluid, it was not statistically significant. Gene expressions of interleukin 33 and Fetuin A were found to be significantly increased in pericardial fluid compared to plasma, corroborating the protein levels. **Conclusions:** Interleukin 33, Fetuin A and Cytokeratin 18 levels are clinically important and biomarkers that should be followed. Fluctuations of these biomolecules suggest that pericardial fluid has a potential to be used as a source of biomarkers for coronary artery diseases, even if sampling from the pericardium is not sustainable. Increased Interleukin 33 and Fetuin A proposes apoptotic machinery activated in the heart tissues of our patients. Pericardial fluid is an important target for both diagnosis and treatment because of its proximity and relationship to the heart tissue.

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