عنوان مقاله:

Transcriptional activity of tumor necrosis factor-alpha gene in peripheral blood mononuclear cells in patients with coronary slow flow

محل انتشار:

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نویسندگان:

Yousef Rasmi - Professor, Cellular and Molecular Research Center AND Department of Biochemistry, School of Medicine, Urmia University of Medical Sciences, Urmia, Iran

Morteza Bagheri - Assistant Professor, Cellular and Molecular Research Center AND Student Research Committee, Urmia University of Medical Sciences, Urmia, Iran

Sanaz Faramarz-Gaznagh - Department of Biochemistry, School of Medicine, Urmia University of Medical Sciences, Urmia, Iran

Mohadeseh Nemati - Department of Biochemistry, School of Medicine, Urmia University of Medical Sciences, Urmia, Iran

Mohammad Hasan Khadem-Ansari - Professor, Department of Biochemistry, School of Medicine, Urmia University of Medical Sciences, Urmia, Iran

Ehsan Saboory - Professor, Neurophysiology Research Center, Urmia University of Medical Sciences, Urmia, Iran

Mir Hossein Seyed-Mohamadzad - Associate Professor, Department of Cardiology, School of Medicine, Urmia University of Medical Sciences, Urmia, Iran

Alireza Shirpoor - Associate Professor, Department of Physiology, School of Medicine, Urmia University of Medical Sciences, Urmia, Iran

خلاصه مقاله:

BACKGROUND: Coronary slow flow (CSF), an angiographic phenomenon that is characterized by a delayed coronary blood flow in the absence of obstructive coronary artery stenosis, is known as a disorder of the coronary microcirculation. Inflammation has an important role in the vascular hemostasis and endothelial dysfunction especially regarding monocyte adhesion and infiltration. Pro-inflammatory cytokines released by inflammatory cells result in endothelial cell dysfunction and cardiovascular diseases. It has been demonstrated that tumor necrosis factor-alpha (TNF-α) mainly influences the vascular homeostasis and endothelial dysfunction. In the present enquiry the transcriptional activity of TNF-α gene in peripheral blood mononuclear cells (PBMCs) of patients with CSF was compared with healthy controls in order to further survey the role of TNF-α in pathophysiology of CSF. METHODS: The study was carried out on ۳۰ patients with CSF and ۳۰ matched healthy controls. To analysis gene expression of TNF-α, total mRNA was isolated from PBMCs. The quantitative real-time reverse transcription-polymerase chain reaction (qRT-PCR) was used to compare the transcriptional activity of TNF-α gene between patients with CSF and controls. RESULTS: The mean ± standard error of mean of fold in CSF patients and controls were ۰.۲۰ ± ۰.۰۴ and ۱.۳۸ ± ۰.۲۷, respectively. The mRNA mean expressions of TNF-α (fold) were different in tested groups, which indicated a significant decrease in TNF-α in patients with CSF group (P = ۰.۰۰۰۱). CONCLUSION: Expression of TNF-α was decreased in patients with CSF. Changes in TNF-α expression suggest a potential role for altered immune function in the pathophysiology of CSF.

کلمات کلیدی:

Inflammation, Tumor Necrosis Factor-alpha, Cytokines, Slow Flow Phenomenon, Coronary Angiography