

## Original Paper

# Relationship between serum cardiac troponin T and I with Left ventricular hypertrophy and systolic dysfunction in hemodialysis patients

Sedighi O (M.D)<sup>1</sup>, Golshani S (M.D)\*<sup>2</sup>, Nikzad F<sup>3</sup>

<sup>1</sup>Assistant Professor, Department of Internal Medicine, Mazandaran University of Medical Sciences, Sari, Iran.

<sup>2</sup>Assistant Professor, Department of Cardiology, Mazandaran University of Medical Sciences, Sari, Iran.

<sup>3</sup>Medical Student, Mazandaran University of Medical Sciences, Sari, Iran.

---

## Abstract

**Background and Objective:** Cardiovascular diseases are the most frequent cause of death among hemodialysis patients. Left ventricular hypertrophy and systolic dysfunction are potent predictors of cardiovascular morbidity and mortality in hemodialysis patients. Cardiac troponin T and I are the indices of myocardial cell damage. This study was done to determine the relationship between serum cardiac troponin T and I with left ventricular hypertrophy and systolic dysfunction in hemodialysis patients.

**Method:** In this case-control study, 56 hemodialysis patients were divided into two groups according to echocardiographic findings. The first group included 35 patients with left ventricular hypertrophy as case group and 21 patients without left ventricular hypertrophy as controls. Serum level of cardiac troponin T and I were measured using electro chemiluminescence immune assay.

**Results:** Serum level of cardiac troponin T and I was significantly higher in patients with left ventricular hypertrophy ( $0.99\pm 0.12$  ng/ml and  $0.17\pm 0.09$  ng/ml, respectively) in comparison with controls ( $0.37\pm 0.05$  ng/ml and  $0.13\pm 0.09$  ng/ml, respectively) ( $P<0.05$ ). There was no correlation between serum cardiac troponin T and I level with left ventricular systolic dysfunction.

**Conclusion:** Cardiac troponin I and T do not have any value for the diagnosis of left ventricular systolic dysfunction in hemodialysis patients.

**Keywords:** Hemodialysis, Left ventricular hypertrophy, Left ventricular systolic dysfunction, Cardiac Troponin T, Cardiac Troponin I

---

\* Corresponding Author: Golshani S (M.D), E-mail: [dr\\_golshani@yahoo.com](mailto:dr_golshani@yahoo.com)

Received 2 Dec 2013

Revised 27 Apr 2014

Accepted 3 Jun 2014