Electronic Letters on Science & Engineering 12 (2) (2016)
Available online at www.e-lse.org

Special Issue
BSW2016
Fifth Bozok Science Workshop: Nano Carbon Materials and Their Applications

Bozok Science Workshop 2016, Yozgat, April 28-29, 2016.

ELEVATED HYALURONAN LEVELS IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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Abstract:

Background: The role of hyaluronan (HA) has previously demonstrated in patients with mitral stenosis and pulmonary hypertension. It is considered that increased levels of HA are associated with both cardiac and pulmonary tissue damage. However, there is no data about HA levels in patients with acute myocardial infarction (AMI). In this study, we aimed to investigate hyaluronan levels and its kinetics in patients with AMI. This work was supported by The Scientific Research Projects Coordination Unit of Erciyes University TSA-12-3985.

Methods: This prospective study was conducted from October 2012 and July 2014 and enrolled consecutive 56 patients with AMI. Plasma levels of HA were measured at baseline, 7th day and first month after AMI. Echocardiographic examinations were performed at baseline and first month.

Results: The baseline HA level was 33.2 ± 2.8 ng/ml and at 7 days HA levels were significantly higher compared to baseline [Plasma HA (ng/ml, mean±SD): 7 days 46.2±4.3, baseline 33.2±2.8, p=0.014]. HA levels at 30th days were found significantly higher compared to baseline [Plasma HA (ng/ml, mean±SD): 30th days 50.1±3.9, baseline 33.2±2.8, p=0.002]. However, There was no statistically difference on HA levels between at 7 and 30 days [Plasma HA (ng/ml, mean±SD): 30th days 50.1±3.9, baseline 46.2±4.3, p=0.589].

There were a positive interaction between baseline and 7th day HA levels and peak CK, CKMB, AST, LDH and troponin levels. Similarly, significant correlation was found between 30th day HA levels and peak CK (r=0.377, p=0.004), CKMB (r=0.429, p=0.001), AST (r=0.429, p=0.001), LDH (r=0.389, p=0.005), and peak troponin levels (r=0.360, p=0.006).

Conclusion: This is the first article showing that plasma HA levels increase in patients with AMI. Our results suggest that HA might be a promising biomarker of myocardial damage.

Keywords: *Hyaluronan; Acute Myocardial Infarction; anterior wall infraction; biomarker.*

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