

**9th International Conference on
Health, Treatment and Health Promotion**



Prognostic value of fragmented QRS complex in patients with acute myocardial infarction

Mohammad Reza Dehghani¹ · Akram Shariati¹ · Azin Haghjou¹ · Samin Izadi¹ · Babak Sattartabar² · Yousef Rezae³

¹ Department of Cardiology, Seyyed-al-Shohada Heart Center, Urmia University of Medical Science, Urmia, Iran

² Tehran University of Medical Sciences, Tehran, Iran

³ Heart Valve Disease Research Center, Rajaie Cardiovascular Medical and Research Center, Iran University of Medical Sciences, Tehran, Iran

Abstract

Background:

Several factors and risk stratification tools have been studied to determine the prognosis of acute coronary syndrome. Fragmented QRS (fQRS) is a marker of myocardial scar and its prognostic role has recently been demonstrated. The present study aimed to investigate the association between the presence of fQRS in electrocardiogram and the prognosis of ST-segment elevation and non-ST-segment elevation myocardial infarction (STEMI and NSTEMI).

Methods:

A total of 661 patients with myocardial infarction (MI) were enrolled in a retrospective study. Based on the presence of fQRS in admission electrocardiogram, patients were divided into two groups. All patients were followed up for 6 months, and all major adverse cardiovascular events (MACE) were recorded.

Results:

The mean age of patients was 61.3 ± 1.2 years, and 71.7% were male. In the acute phase, the detection rates of regional wall motion abnormality and aortic valve insufficiency were higher in positive fQRS compared to negative fQRS group ($p = 0.003$). The incidence of total MACE was significantly higher in the positive fQRS compared to the negative fQRS group among all patients and in both STEMI and NSTEMI subgroups ($p < 0.001$). Based on multivariate analysis, the presence of fQRS and hypertension were the strongest predictors of total MACE at 6-month follow-up (odds ratio [OR] = 5.929; 95% confidence interval [CI] = 3.620-9.709; $p < 0.001$ and OR = 2.220; 95% CI = 1.390-3.547; $p < 0.001$, respectively).

Conclusion:

Regardless of the type of MI, it was found that the presence of fQRS on admission electrocardiogram can be implemented in risk stratification tools in patients with acute MI.

Keywords: Acute coronary syndrome; Electrocardiogram; Major adverse cardiovascular events; NSTEMI; STEMI.