Incidence of ventricular arrhythmias among critically ill patients with fragmented QRS complex in ECG

Thesis

Submitted by:

Asmaa Mizar Abd ElHameed

(M.B.B.Ch)

Resident of critical care– Fayoum University

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Abstract

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Resident of critical care – Fayoum University

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Supervised by

Prof. Dr. Sherif Hamed Zaky, MD

Prof. of critical care

Faculty of medicine – Cairo University

Prof. Dr. Khaled Ahmed El khashab, MD

Prof. of cardiology

Faculty of medicine – Fayoum University

Dr. Tamer Sayed Abd Elmola, MD

Lecturer of critical care

Faculty of medicine – Fayoum University

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Background

The presence of fQRS on electrocardiogram is associated with myocardial scarring, ischemia, and fibrosis and originates from the deterioration in the process of signal transduction and ventricular depolarization. The presence of fQRS in coronary artery disease is known to be significantly associated with major adverse cardiac events and left ventricular dysfunction.

Objective

In our study we aimed to determine whether fQRS is associated with increased incidence of ventricular arrhythmias in patients with CAD .

Methods

This prospective study was conducted on 100 critically ill patients with coronary artery disease.

- Patients were divided into two groups according to presence or absence of fQRS on admission ECG.
- group1 (n=50) was defined as a fQRS (+ve)
- group2 (n=50) was defined as a fQRS (-ve).
- All patients were subjected to full history taking ,complete physical examination, ECG, echocardiography and laboratory investigations.

Results

- There was higher incidence of fragmented QRS in hypertensive patients , (72%) of fQRS (+ve) group were hypertensive.

-Fragmented QRS was found to be associated with increased incidence of ventricular arrhythmias, 52% versus 24% in the other group.

-EF % was significantly lower in the fQRS (+ve) group than in the fQRS (-ve) with p value 0.03.

Abstract

- Fragmented QRS was an independent predictor of all cause mortality with p value 0.02.

Conclusion

Fragmented QRS on the resting surface electrocardiogram is a simple, fast and inexpensive modality of noninvasive investigation for evaluation of coronary artery disease patients. Patients who have known CAD present with a fragmented QRS demonstrated increased rates of ventricular tachyarrhythmias, death risk, and low ejection fraction.

Keywords

Fragmented QRS, Coronary Artery Disease, Ventricular arrhythmia, Mortality.