Differential Characteristics of Patients with Acute Coronary Syndrome without ST-Segment Elevation Compared to those with Transient ST-Segment Elevation

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Abstract

Objective: To evaluate different characteristics of patients with acute coronary syndrome (ACS) without ST-segment elevation compared with transient ST-segment elevation.

Design: An observational, prospective study.

Setting: A 12-bed coronary care unit.

Patients: Consecutive patients of ACS without persistent ST-segment elevation.

Main variables of interest: The population was divided intro 2 groups according to the presence of transient ST-segment elevation. Variables of interest were age, cardiovascular risk factors, troponin I and glucose concentrations on admission, coronary anatomy, left ventricular ejection fraction, inhospital mortality and drugs.

Results: Patients identified as ACS with transient ST-segment elevation were significantly younger, smokers and predominantly male. At the same time, they showed a minor peak elevation of troponin I, a higher ejection fraction and, mainly single-vessel coronary disease.

Conclusions: Patients with ACS with transient ST-segment elevation differ in the type of population, myocardial damage and coronary angiographic results with respect to patients with ACS without ST-segment elevation. More research is needed to clarify whether these differences imply a different therapeutic approach.

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Introducción

El síndrome coronario agudo (SCA) sin persistencia del segmento ST es caracterizado por la brevedad de los cambios electrocardiográficos. El segmento ST es definido como elevación que resuelve en menos de 30 min sin tratamiento de reperfusión de ningún tipo. ST-segmento elevación es definida como elevación que resuelve en menos de 30 min sin tratamiento de reperfusión de ningún tipo. El tratamiento actual de guías de manejo se ha vuelto más semejante a la pico del SCA sin ST-segmento elevación, aunque las publicaciones o recomendaciones no contienen suficientes estudios o publicaciones para aclarar si dichas diferencias implicarían un manejo terapéutico diferente.

Resultados: Los pacientes identificados con SCA sin elevación transitoria del segmento ST fueron significativamente más jóvenes, fumadores y con predominio del sexo masculino. A su vez, presentaban una elevación pico de troponina I menor, mayor fracción de eyección y principalmente enfermedad coronaria de un vaso.

Conclusions: Los pacientes con SCA con elevación transitoria del segmento ST presentan diferencias en cuanto al tipo de población, daño miocárdico y resultados angio-gráficos con respecto a los pacientes con SCA sin elevación del segmento ST. Son necesarias más investigaciones para esclarecer si dichas diferencias implicarían un manejo terapéutico diferente.
transient ST-segment elevation were significantly younger, smokers, and predominantly males. The laboratory test data in turn reflected a lesser troponin I peak elevation in this group of patients. Regarding the coronary angiographic results, the patients with ACS with transient ST-segment elevation showed a greater prevalence of single-vessel disease. The left ventricle ejection fraction as determined by transthoracic echocardiography in the first 48 h after admission was greater in the group presenting ACS with transient ST-segment elevation. There were no statistically significant differences in in-hospital mortality.

Discussion

In the present study, the patients showing ACS with transient ST-segment elevation exhibited differences versus the patients with ACS without ST-segment elevation in terms of the type of population, myocardial damage and the angiographic results. Thus, they constitute a special subgroup of individuals with characteristics of their own, clearly differentiated from those of other ACS presentations. Given the scarcity of previous clinical trials in this field, it remains to be established whether these differences imply the need for a different treatment approach in order to afford full benefits for this particular patient population.3,5,6

Classically, ST-segment elevation on the electrocardiographic tracing has been taken to represent complete occlusion of an epicardial coronary vessel.7 As a result, rapid resolution of this ECG change would indicate rapid resolution of the coronary event. This and the comparatively less pronounced changes in the myocardial damage markers, the predominance of single-vessel disease, and the comparatively greater left ventricle ejection fraction all suggest that there are underlying physiopathological differences involving atherothrombotic and vasospastic phenomena to one degree or other.8

There were no differences between the two groups in terms of in-hospital mortality; however, we consider that longer follow-up would be needed in order to establish possible prognostic differences.9,10 Probably the limited interest in patients of this kind and their low literature repercussion account for the scant importance and indeterminacy of ACS with transient ST-segment elevation found in the clinical practice guides.

We consider that further studies are needed in order to clarify these issues and to contribute new knowledge of this disorder.

Conflict of Interest

The authors have no conflicts of interest to declare.

References