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# Diagnostic Accuracy of Prehospital Tele-Electrocardiography in Acute Coronary Syndrome

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Published Online: 5 Jul 2018 | Doi: <https://doi.org/10.1089/tmj.2017.0277>

## Abstract

**Background:** Tele-electrocardiography (tele-ECG) is a powerful ally in the screening of acute ischemic lesions.

**Introduction:** Evidence that confirms the correlation between the diagnosis of acute coronary syndrome (ACS) determined in the prehospital setting and the confirmation of the diagnosis in the hospital setting is scarce. This study compares the presumed diagnosis of ACS in the prehospital setting based on electrocardiographic changes, such as ST-segment deviation, with the diagnosis confirmed in a hospital setting.

**Materials and Methods:** Retrospective, cross-sectional analysis of medical records of patients who sought emergency ambulance services of a distinguished public healthcare service in the city of Porto Alegre from September 2013 to August 2014. Data were collected from tele-ECG recordings and medical records available at the database of the Secretary of Health. The study was based on the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines.

**Results:** Among the 1,338 prehospital examinations performed, a total of 250 admissions in tertiary hospitals were registered. There was a significant agreement ( $p < 0.01$ ) of 71% of the electrocardiographic changes identified in the prehospital setting with the diagnosis of ACS confirmed in the hospital setting. These changes were more prevalent in men ( $p = 0.048$ ) and in patients aged 60 years or older ( $p = 0.006$ ).

**Discussion:** The tele-ECG allows the early diagnosis of ACS, reducing the delay to definitive treatment, be it reperfusion, chemical, or mechanical therapy.

**Conclusions:** Seventy-two percent of the prehospital diagnosis of ACS based on electrocardiographic changes was later confirmed in the hospital setting.

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