

## **The utility of SYNTAX score predictability by electrocardiogram parameters in patients with unstable angina**

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**Background:** SYNTAX score is one of the risk assessment systems to predict cardiac events in acute coronary syndrome patients. Despite the large number of SYNTAX score benefits, invasive methods such as coronary angiography are necessary to perform the scoring. We hypothesized that ECG parameters could predict the SYNTAX score in unstable angina patients.

**Methods:** During the retrospective cohort study, a total number of 876 patients were diagnosed with unstable angina. After applying the exclusion criteria, 600 patients were divided into tertiles based on the SYNTAX scores as low (0–22), intermediate (23–32), and high ( $\geq 33$ ). The association between ECG parameters and SYNTAX score was investigated.

**Results:** The study included 65% men and 35% women with a mean age of  $62.4 \pm 9.97$  years. The delayed transition zone of QRS complex, ST-depression in inferior-lateral territories or/and in all three territories, and T-wave inversion in lateral territory were significant ( $p < 0.05$ ) independent predictors of intermediate SYNTAX score. High SYNTAX score was predicted by the presence of prolonged P wave duration, ST-depression in lateral territory or/and anterior-lateral territories, ST-elevation in aVR–III leads or/and aVR–III–V1 leads. Among those, all three territories ST-depression (AUC: 0.611, sensitivity: 75%, specificity: 51%) and aVR + III ST-elevation (AUC: 0.672, sensitivity: 50.12%, specificity: 80.50%) were the most accurate parameters to predict intermediate and high SYNTAX scores, respectively.

**Conclusion:** The present study demonstrates that accompanying the STE in the right side leads (aVR, III, V1) with ST-depression in other leads indicates the patients with high SYNTAX score; meanwhile, diffuse ST-depression without ST-elevation is a marker for intermediate SYNTAX score in unstable angina patients and can be applied for early risk stratification and intervention.

### **Biography**

Dedicated and caring cardiologist with more than 4 years' experience in clinical practice, helping over 70 patients (inpatient and outpatient) with their cardiac ailments on a daily basis. Conducting research on cardiovascular disease and treating patients accordingly. Working as attending at Shiraz University of Medical Science for 4 years and teaching medical students and residents of cardiology Proficiency in teaching clinical cardiology and serve as a problem based learning (PBL) tutor at various stages in the medical program (The best attending of shiraz medical university at education).

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