COMPARISON OF TIMI, PURSUIT AND GRACE RISK SCORES IN PATIENTS PRESENTING EMERGENCY DEPARTMENT WITH NON-ST-ELEVATION ACUTE CORONARY SYNDROME

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Objectives Risk stratification for patients with non-ST-elevation acute coronary syndrome (NSTE-ACS) is a difficult challenge for physicians. This study was to compare, the prognostic value of three clinical risk scores, the GRACE, PURSUIT and TIMI score in NSTE-ACS patients.

Methods PubMed was systematically searched for the TIMI, PURSUIT and GRACE risk score studies, especially the UA/NSTEMI studies. 8 eligible studies with 25 247 people were formally appraised. The GRACE scores, PURSUIT scores and TIMI score were subsequently divided into low, intermediate and high equivalent strata to facilitate comparison. The study endpoint was cardiac event in hospital, at short term (30-days) and over longer term (360-day) follow-up. χ² test and Wilcoxon (Gehan) Statistic were used for statistical analysis where appropriate.

Results In-hospital cardiac event rates in all risk scores were of no statistically significant difference. At 30-day follow-up, in low risk group, TIMI performs better than the other two risk scores (TIMI vs PURSUIT, p<0.001; TIMI vs GRACE, p < 0.001; TIMI > PURSUIT, GRACE in event rate); in intermediate group, TIMI performs than the others again (TIMI vs PURSUIT, p<0.001; TIMI vs GRACE p < 0.001; TIMI > PURSUIT, GRACE in event rate); but in the high risk group, PURSUIT performs best (TIMI vs PURSUIT, p=0.023; PURSUIT vs GRACE, p=0.005; PURSUIT > TIMI, GRACE in event rate). At 1-year follow-up, there is no statistical significance among each low risk group; TIMI and PURSUIT performs better in the intermediate group (PURSUIT vs GRACE, p=0.0091; TIMI vs GRACE, p=0.009; PURSUIT > TIMI, GRACE in event rate), but in the high risk group, PURSUIT and GRACE performs better (TIMI vs PURSUIT, p=0.012; TIMI vs GRACE, p < 0.001; GRACE > PURSUIT > TIMI).

Conclusions In NSTE-ACS population, TIMI risk score can be widely applied. At 30-day PURSUIT are better than others in the high-risk group. GRACE is superior at long term follow-up in high risk group.