Primjena statina unutar prvih 24 sata nakon akutnog koronarnog sindroma značajno smanjuje unutarbolničku smrtnost

Statin administration within the first 24 hours after onset of acute coronary syndrome significantly reduces in-hospital mortality

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Uvod: Medikamentna terapija u akutnom koronarnom sindromu (AKS) dobro je definirana, no optimalan vremenski interval za primjenu svakog pojedinog lijeka, posebice u prvih 24 sata, do sada nije uvelike istražen.¹⁻⁴ Cilj istraživanja jest prikupljanje podataka o unutarbolničkoj smrtnosti nakon preboljenog AKS-a putem lokalnog registra (dio *International Registry of Acute Coronary Syndromes in Transitional Countries*, ISACS-TC).

Pacijenti i metode: Provedena je retrospektivna opservacijska studija u Kliničkom bolničkom centru Zagreb, u razdoblju od siječnja 2013. do siječnja 2015. godine, na ukupno 1197 bolesnika s dijagnozom ACS (563 pacijenata s akutnim infarktom miokarda s ST-elevacijom i 630 pacijenata s akutnim infarktom miokarda bez ST-elevacije i nestabilnom anginom pectoris, 4 bolesnika nedostaju; 372 žene i 825 muškaraca, prosječne dobi 66 ± 11 godina). Medijan vremena bolničkog liječenja bio je 5 dana (3-8). Za statističku analizu korištena je multipla binarna logistička regresija, Pearsonov test, hi-kvadrat, Student t-test te Mann Whitney test.

Rezultati: Statini su u prvih 24 sata nakon ACS primjenjeni kod ukupno 94 % bolesnika, beta-blokatori (BB) kod 87 % te ACE inhibitori (ACEI) kod 89 %. Između podskupina bolesnika koji su liječeni navedenim lijekovima u prvih 24h nakon pojave ACS-a i onih koji nisu, nije bilo značajne razlike u dobi, spolu, šećernoj bolesti, sistoličkoj funkciji lijeve klijetke (LVEF), indeksu tjelesne mase, pušenju, vrijednostima kreatin kinaze ili anamnestičkim podacima o zatajivanju srca. Unutarbolnička smrtnost bila je značajno niža u podskupini bolesnika kod kojih su primjenjeni statini u prvih 24 sata nakon ACS (1104 bolesnika, OR 0.019, 95% interval pouzdanosti [CI] 0.002-0.224, p = 0.002). Starija dob, viša vrijednost kreatinina te niža LVEF također su povezani sa značajno većom vjerojatnošću za unutarbolničku smrt u regresijskom modelu. Suprotno primjeni statina, primjena BB i ACEI u prvih 24 sata nije dovela do značajnog smanjenja unutarbolničke

Introduction: Pharmacological treatment options for acute coronary syndrome (ACS) are well established, but little is known about the optimal timing of administration of each individual drug, particularly within the first 24 hours.¹⁻⁴ The aim of the study was to gather data on early outcomes of ACS through the local ACS registry (part of the *International Registry of Acute Coronary Syndromes in Transitional Countries* (ISACS-TC)).

Patients and Methods: We conducted a retrospective observational single center study in the period from January 2013 to January 2015. Study population included 1197 ACS patients (pts) (563 pts with acute ST segment elevation myocardial infarction, 630 pts with non-ST segment elevation myocardial infarction + pts with unstable angina, 4 pts missing; 372 females, 825 males, 66±11 years). Overall, median hospital length of stay was 5 days (3-8). Multiple binary logistic regression with in-hospital death as primary outcome was used for statistical analysis. For group comparison Pearson chi square, Student's t-test and Mann Whitney tests were used.

Results: In the first 24 hours following ACS, statins were administered in 94%, beta-blockers (BB) in 87%, and ACE inhibitors (ACEI) in 89% of pts. Among the early treatment positive and negative groups, pts did not differ according to age, gender, presence of diabetes, left ventricular ejection fraction (LVEF), body mass index, smoking status, creatine kinase levels and the history of heart failure for each of the studied groups. The odds ratio [OR] for in-hospital death was significantly lower in the early statin group (1104 pts, OR 0.019, 95% confidence interval [CI] 0.002-0.224, p = 0.002). Older age, higher creatinine level and lower LVEF were positively associated with increased odds for primary outcome in regression model. As opposed to early statin treatment, early administration of BB and ACEI did not reduce in-hospital mortality (p=0.06, p=0.27) at a significance level of 0.05. The

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smrtnosti ($p=0.06$, $p=0.27$). Ukupna unutarbolnička smrtnost iznosila je 4%, dok je smrtnost u podskupini bolesnika kod kojih nisu primjenjeni statini unutar prva 24h nakon ACS iznosila 22% ($p<0.001$) te tek 5% u skupini bolesnika kod kojih nije primjenjen BB ili ACEI (slika 1).

Zaključak: Primjena statina u prvih 24h nakon ACS značajno smanjuje unutarbolničku smrtnost.

crude overall primary outcome rate was 4%. In pts without statins treatment within the first 24h the mortality rate was 22% ($p<0.001$), and only 5% in pts without BB or ACEI (Figure 1).

Conclusion: Initiation of statin therapy within the first 24h following ACS significantly reduces in-hospital mortality.

FIGURE 1. In-hospital survival among the early statin, beta-blocker (BB) and ACE inhibitor (ACEI) treatment positive and negative groups.

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