Association of Glomerular Filtration Rate on Underachievement of Low-Density Lipoprotein

Methods: We hypothesized that decreased glomerular filtration rate (GFR) was associated with poor short- and long-term prognosis in patients with non-ST-elevation acute coronary syndromes (NSTE-ACS). Data were pooled from NSTE-ACS TIMI trials, and patients were divided into 3 groups: those with normal (≥90 mL/min/1.73m², group 1, n=4952), mildly decreased (60-89 mL/min/1.73m², group 2, n=6622) and moderately to severely decreased GFR (<60 mL/min/1.73m², group 3, n=5593) on presentation.

Results: Mortality increased stepwise with decreasing GFR: 1.27%, 2.11%, and 5.02% at 30 days and 2.47%, 3.79% and 9.53% at 6 months in groups 1, 2, and 3 respectively (p<0.0001 for both). The combination of TIMI risk score (TRS) tertiles and decreasing tertiles of GFR provided further stratification with highest 6-month mortality rate (15.44%) in lowest GFR combined with highest TRS (figure). Furthermore, decreased GFR was associated with mortality independent of TRS (at 30 days, OR=1.41 in group 2, p<0.0001; OR=1.11 in group 3, p<0.0001). In addition, stroke incidence at 30-day increased with decreased GFR: 0.33%, 0.59% and 1.27% in groups 1, 2, and 3 respectively (p<0.0001).

Conclusion: In the setting of NSTE-ACS, impaired GFR is associated with increased 30-day and 6-month mortality independent of TRS, and is associated with increased stroke incidence at 30 days.

Underachievement of Low-Density Lipoprotein Cholesterol Goal in Patients on Statins in Clinical Practice: Are We Using Low Doses of Statins Too Often?

Methods: Among 2220 patients with non-ST elevation acute coronary syndromes, we examined the statin doses used in those receiving statins at the time of entry in the TACTICS-TIMI 18 trial, and their relationship to the measured low-density lipoprotein cholesterol (LDL-C) on admission.

Results: At study entry, 722 (33%) patients were on statins, of whom 372 had LDL-C measurements available: 132 (35%) were on atorvastatin, 126 (34%) on simvastatin, 58 (16%) on pravastatin, and 15% on other statins. The doses used are shown in the Figure. Only 17% and 36% of patients were treated with the 40 mg doses of pravastatin or simvastatin as used in clinical trials. Only 1% of patients were treated with 80mg atorvastatin.

Distribution of Doses

At entry, only 47% of these patients had LDL-C <100 mg/dl. At 6 months, although more patients (1129, 51%) were on statins, the doses of statins used were not higher than those used at baseline.

Conclusion: With the large number of patients on low doses of statins, and the majority not being at LDL-C goal, our data suggest that, in addition to previously documented undertreatment of statins in clinical practice, there is also under-dosing of this important class of drugs.