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BACKGROUND

- Low-density lipoprotein cholesterol (LDL-C) is associated with heightened risk of major adverse cardiovascular events and major adverse limb events (MALE) in peripheral artery disease (PAD)
- Lipid lowering therapies (LLT) which reduce LDL-C levels lower this risk

METHODS

- PAD patients in MarketScan linked to Prognos LDL-C data from 2014-2018 were identified; the index date was the date of PAD diagnosis
- Outcomes included use of LLT, follow-up LDL-C level, composite myocardial infarction or ischemic stroke, and MALE (major amputation [at or above ankle] or acute limb ischemia)
- Clinical outcomes were identified using ICD-9, ICD-10, and CPT codes
- LLT was defined as high intensity (HI; high intensity statin, any statin + ezetimibe, or any use of a PCSK9 inhibitor), low intensity (LI; any other lipid regimen), or no treatment
- Goal LDL-C was defined as <70 mg/dl
- Multivariable logistic regression was used to identify factors associated with achieving LDL-C goal

RESULTS

- 250,103 patients with PAD were included in the analysis population
- Median follow-up was 15 months (interquartile range 7, 25 months)

Table 1. Overall PAD Population Baseline Characteristics

Characteristic	Overall Population (n=250,103)
Age (median, IQR), years	74 (63, 84)
Female sex (%)	49
Prior myocardial infarction (%)	21
Diabetes (%)	39
Prior stroke/transient ischemic attack (%)	25
Heart failure (%)	36
Chronic renal insufficiency (%)	35
Current/former smoker (%)	22
PAD history* (%)	
Prior peripheral revascularization	19
Prior CLI	37
Prior ALI	11
No prior revascularization, CLI, or ALI	52
Lipid lowering therapy (%)	
High intensity	21
Low intensity	40
No treatment	39
High intensity statin	19
Low/moderate intensity statin	41
No statin	40
Ezetimibe	4
PCSK9 inhibitor	0.1

ALI, acute limb ischemia; CLI, critical limb ischemia; IQR, interquartile range; PCSK9, proprotein convertase subtilisin/kexin type 9
 *Categories not all mutually exclusive

Figure 1. Use of LLT in the Overall PAD Population

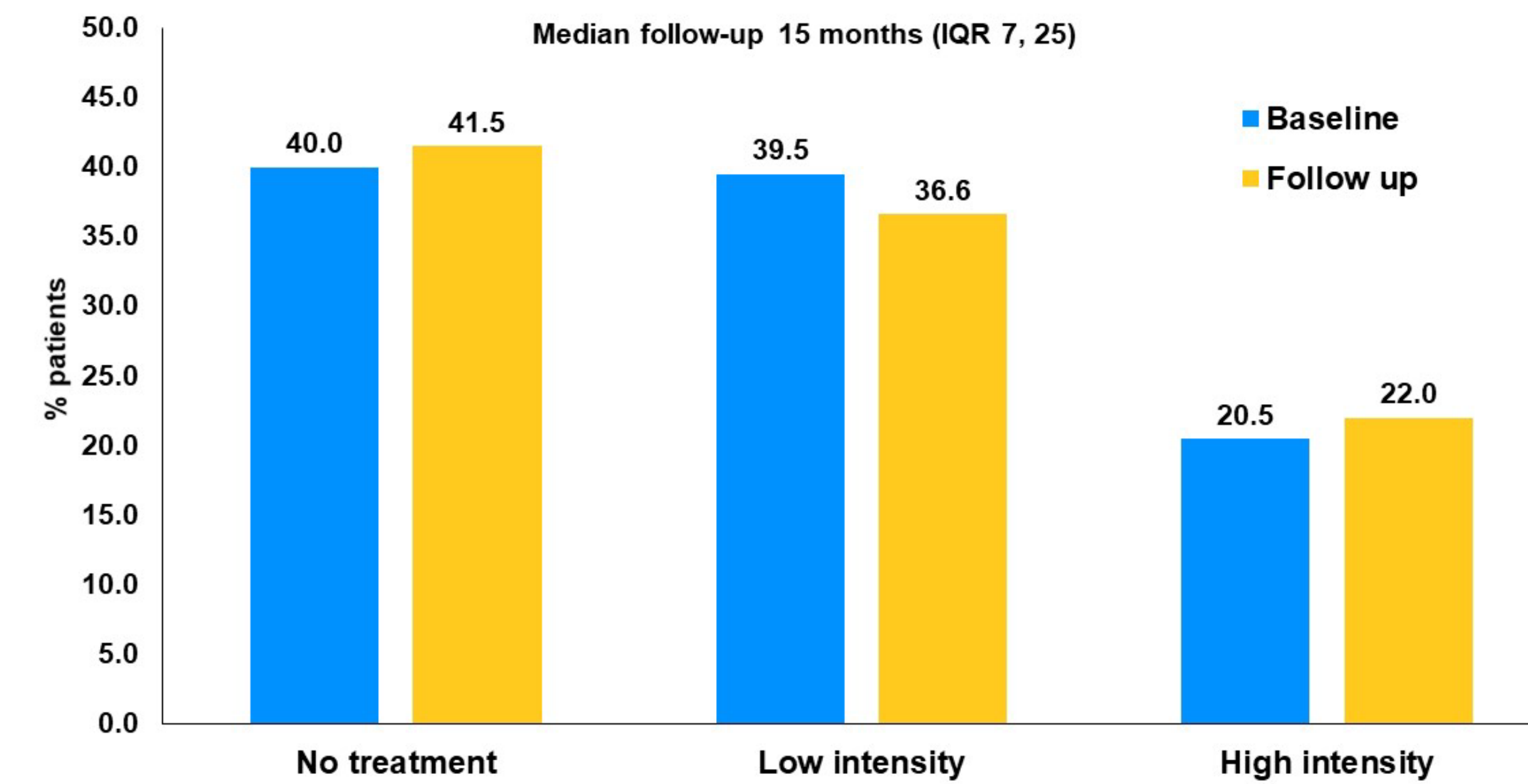


Figure 2. Distribution of LDL-C Among Patients with Baseline and Follow-Up LDL-C Levels

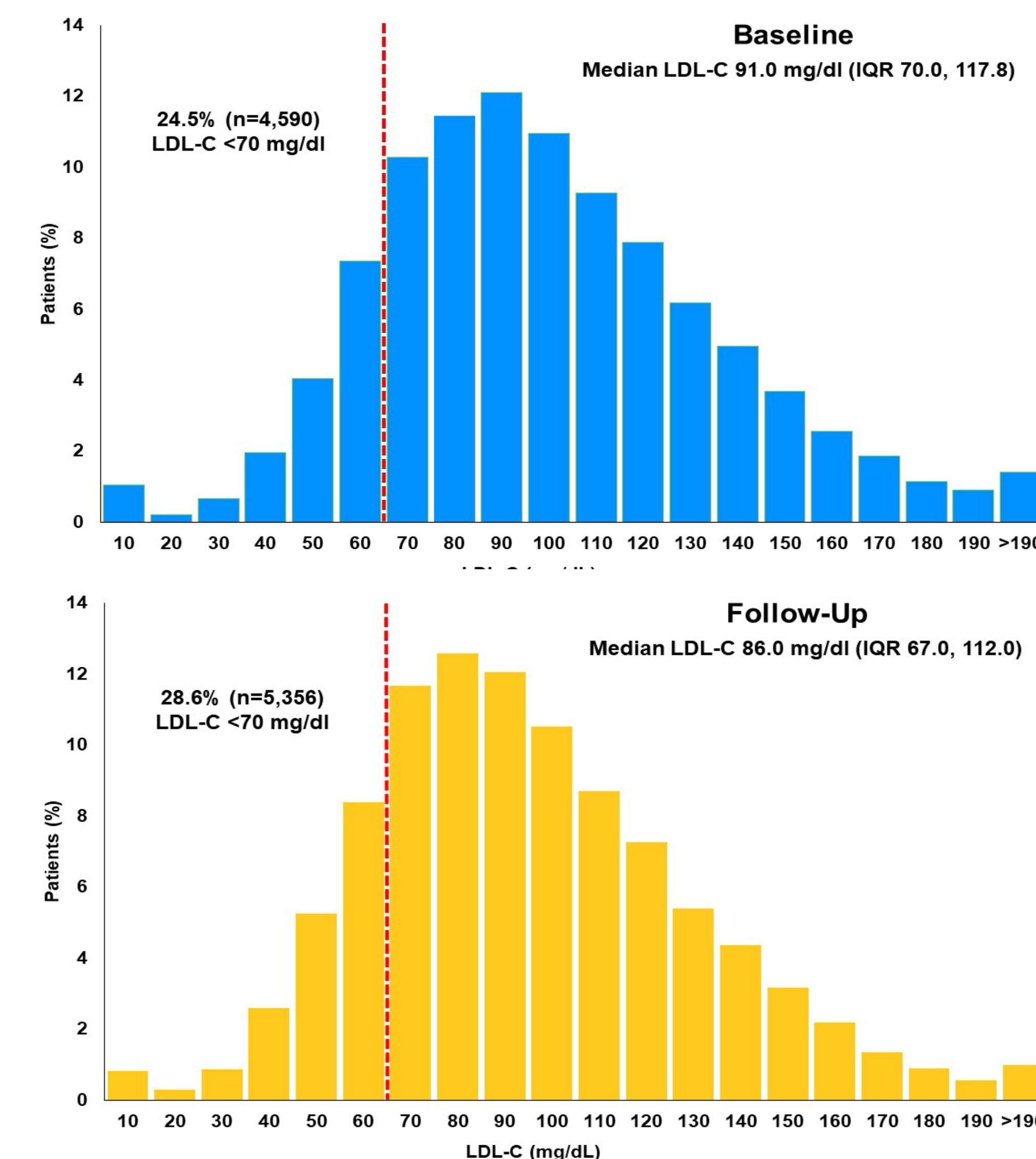


Figure 3. Use of High Intensity LLT after Ischemic Events

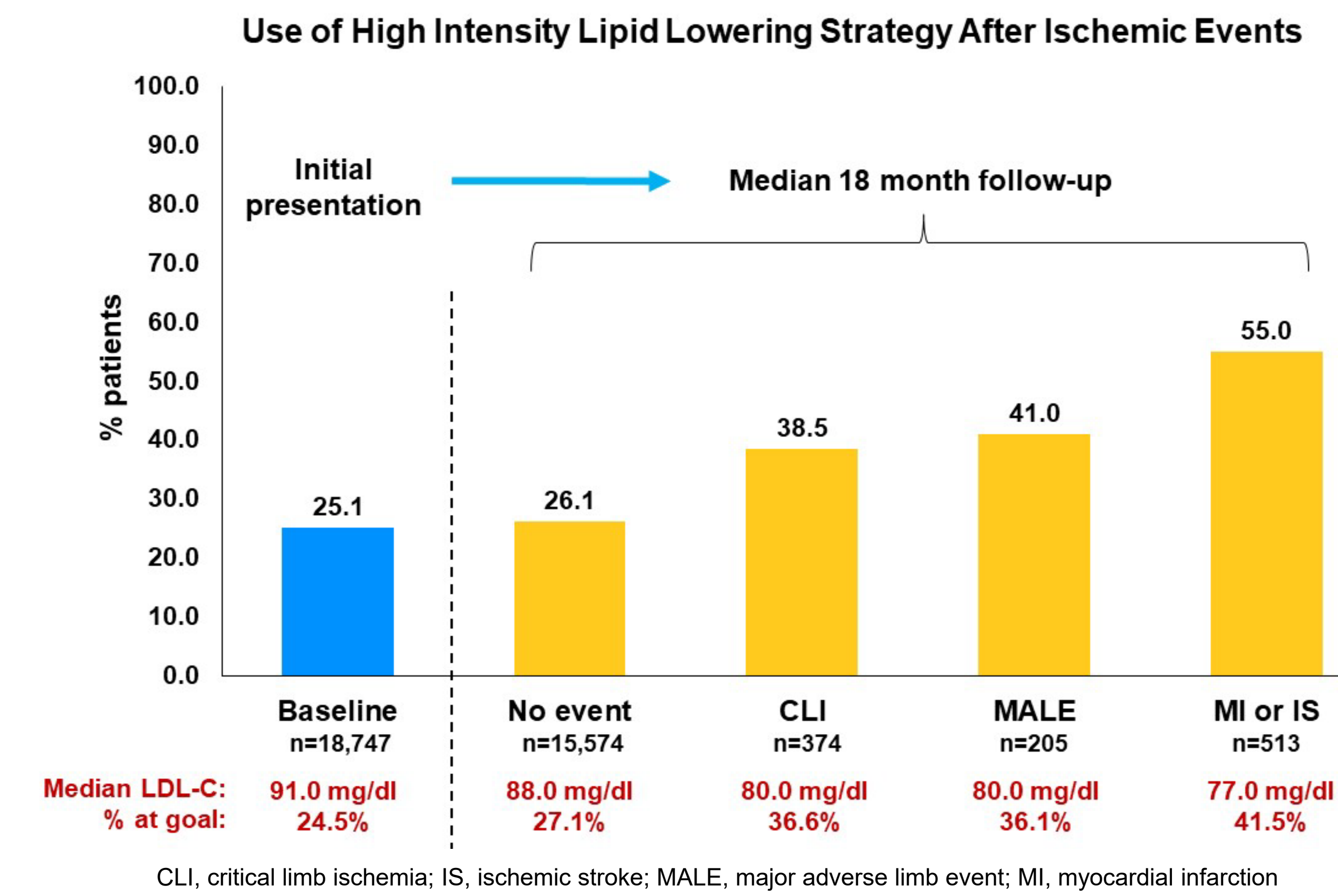
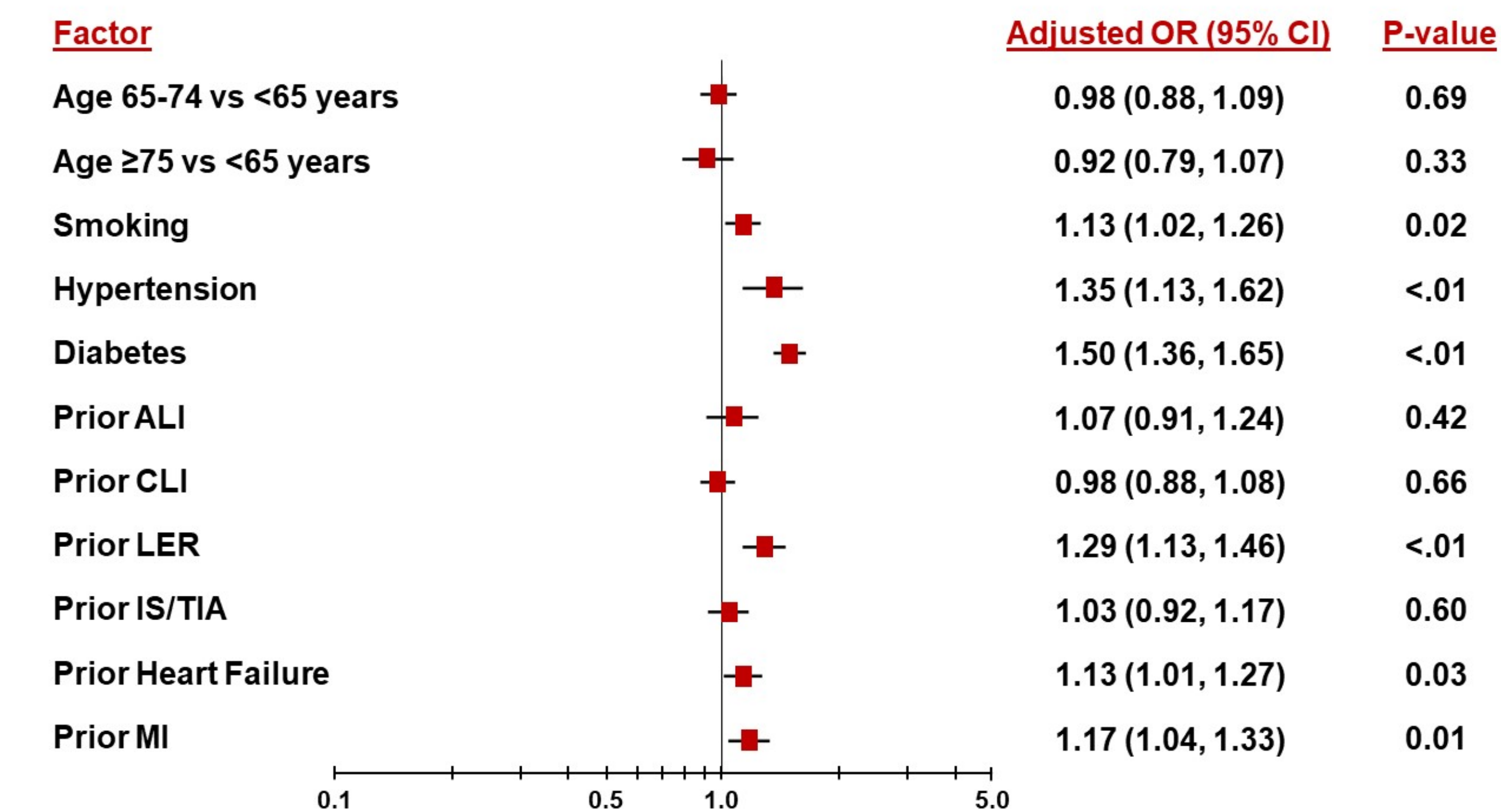


Figure 4. Factors Associated with Achieving Follow-up LDL-C <70 mg/dl



ALI, acute limb ischemia; CLI, critical limb ischemia; IS, ischemic stroke; LER, lower extremity revascularization; MALE, major adverse limb event; MI, myocardial infarction; TIA, transient ischemic attack

Adjusted for age, sex, prior MI, prior IS/TIA, hypertension, heart failure, atrial fibrillation, chronic kidney disease, prior ALI, prior CLI, prior LER, chronic obstructive pulmonary disease, diabetes, obesity, smoking, and baseline LDL-C

LIMITATIONS

- The data are administrative and may be subject to errors in coding and potential misclassification
- Laboratory data were available for a subset of patients; care of these patients may not be representative of lipid management in the overall population

CONCLUSIONS

- In this large analysis of a nationwide PAD population, use of LLT was overall low, and LDL-C remained elevated throughout the study
- Approximately 40% of patients were not on any LLT at baseline and follow-up
- LLT is intensified after ischemic events, more so after myocardial infarction and stroke than after limb events, demonstrating less aggressive treatment of PAD than coronary or cerebrovascular disease
- Correlates of achieving goal LDL-C include risk factors for atherosclerotic cardiovascular disease, prior LER, and prior MI but not prior ALI or CLI

IMPLICATIONS

- These findings highlight the undertreatment of hyperlipidemia in patients with PAD in contemporary practice
- Efforts to improve lipid management in PAD should not only focus on improving use of LLT, especially after ischemic events, but also on developing programs to ensure achievement of goal LDL-C

DISCLOSURES

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