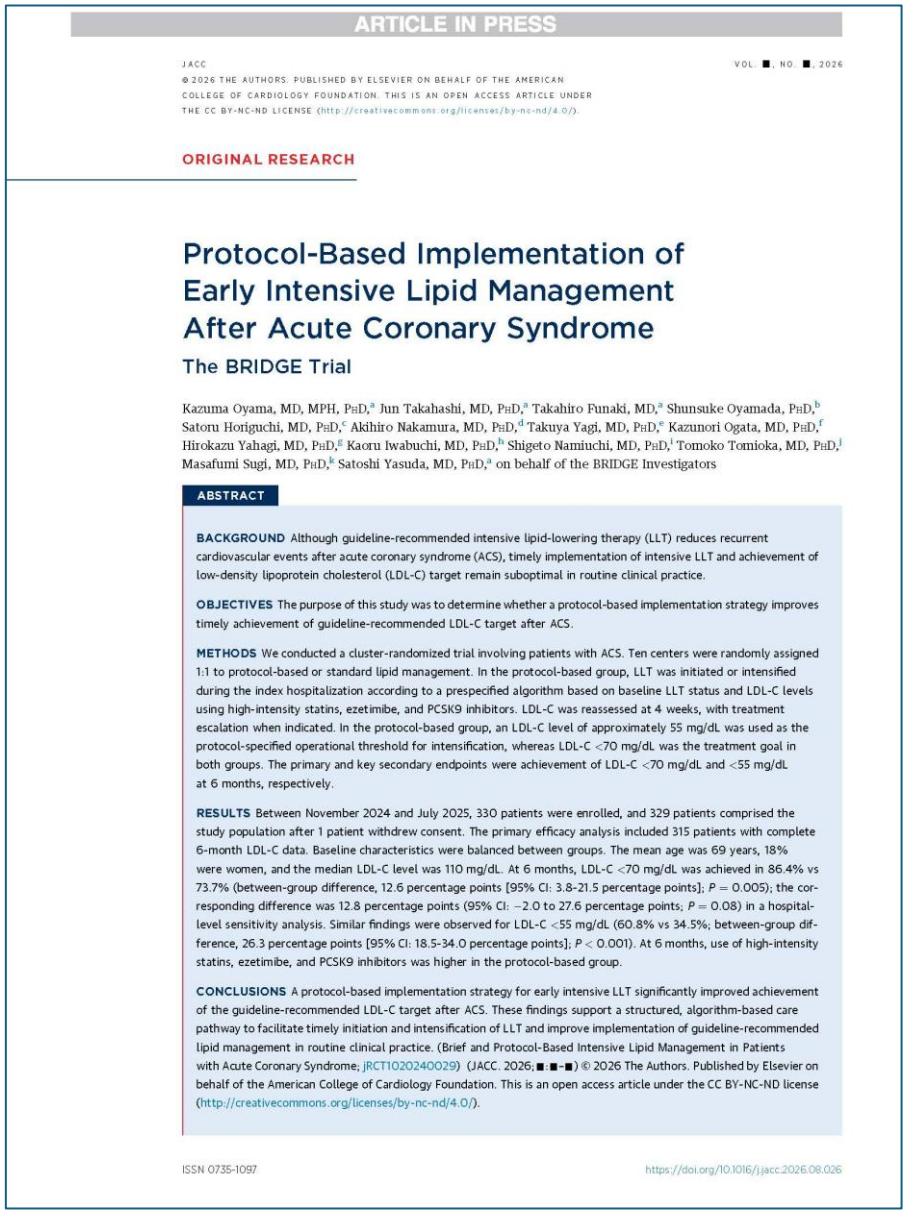

ARTICLE IN PRESS

JACC VOL. ■, NO. ■, 2026

ORIGINAL RESEARCH

Protocol-Based Implementation of Early Intensive Lipid Management After Acute Coronary Syndrome

The BRIDGE Trial

Kazuma Oyama, MD, MPH, PhD,[a] Jun Takahashi, MD, PhD,[a] Takahiro Funaki, MD,[a] Shunsuke Oyamada, PhD,[b] Satoru Horiguchi, MD, PhD,[c] Akihiro Nakamura, MD, PhD,[d] Takuya Yagi, MD, PhD,[e] Kazunori Ogata, MD, PhD,[f] Hirokazu Yahagi, MD, PhD,[g] Kaoru Iwabuchi, MD, PhD,[h] Shigeto Namiuchi, MD, PhD,[i] Tomoko Tomioka, MD, PhD,[j] Masafumi Sugi, MD, PhD,[g] Satoshi Yasuda, MD, PhD,[a] on behalf of the BRIDGE Investigators

ABSTRACT

BACKGROUND Although guideline-recommended intensive lipid-lowering therapy (LLT) reduces recurrent cardiovascular events after acute coronary syndrome (ACS), timely implementation of intensive LLT and achievement of low-density lipoprotein cholesterol (LDL-C) target remain suboptimal in routine clinical practice.

OBJECTIVES The purpose of this study was to determine whether a protocol-based implementation strategy improves timely achievement of guideline-recommended LDL-C target after ACS.

METHODS We conducted a cluster-randomized trial involving patients with ACS. Ten centers were randomly assigned 1:1 to protocol-based or standard lipid management. In the protocol-based group, LLT was initiated or intensified during the index hospitalization according to a prespecified algorithm based on baseline LLT status and LDL-C levels using high-intensity statins, ezetimibe, and PCSK9 inhibitors. LDL-C was reassessed at 4 weeks, with treatment escalation when indicated. In the protocol-based group, an LDL-C level of approximately 55 mg/dL was used as the protocol-specified operational threshold for intensification, whereas LDL-C <70 mg/dL was the treatment goal in both groups. The primary and key secondary endpoints were achievement of LDL-C <70 mg/dL and <55 mg/dL at 6 months, respectively.

RESULTS Between November 2024 and July 2025, 330 patients were enrolled, and 329 patients comprised the study population after 1 patient withdrew consent. The primary efficacy analysis included 315 patients with complete 6-month LDL-C data. Baseline characteristics were balanced between groups. The mean age was 69 years, 18% were women, and the median LDL-C level was 110 mg/dL. At 6 months, LDL-C <70 mg/dL was achieved in 86.4% vs 73.7% (between-group difference, 12.6 percentage points [95% CI: 3.8-21.5 percentage points]; $P = 0.005$); the corresponding difference was 12.8 percentage points (95% CI: −2.0 to 27.6 percentage points; $P = 0.08$) in a hospital-level sensitivity analysis. Similar findings were observed for LDL-C <55 mg/dL (60.8% vs 34.5%; between-group difference, 26.3 percentage points [95% CI: 18.5-34.0 percentage points]; $P < 0.001$). At 6 months, use of high-intensity statins, ezetimibe, and PCSK9 inhibitors was higher in the protocol-based group.

CONCLUSIONS A protocol-based implementation strategy for early intensive LLT significantly improved achievement of the guideline-recommended LDL-C target after ACS. These findings support a structured, algorithm-based care pathway to facilitate timely initiation and intensification of LLT and improve implementation of guideline-recommended lipid management in routine clinical practice. (Brief and Protocol-Based Intensive Lipid Management in Patients with Acute Coronary Syndrome; jRCT1020240029) (JACC. 2026;■:■-■) © 2026 The Authors. Published by Elsevier on behalf of the American College of Cardiology Foundation. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

ISSN 0735-1097 https://doi.org/10.1016/j.jacc.2026.08.026

Simultaneously published in *JACC*

@KazumaOyama

JACC®