Physician connect

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Dear Doctor,

Greetings from Micro Labs Limited. We are happy to bring you 'Physician connect' which contains latest and interesting news in the field of Medicine

This issue contains

- Effect of Treating Hyperphosphatemia With Lanthanum Carbonate vs Calcium Carbonate on CV Events in Patients With CKD Undergoing Hemodialysis: The LANDMARK Randomized Clinical Trial
- Triple vs Dual Inhaler Therapy and Asthma Outcomes in Moderate to Severe Asthma A Systematic Review and Meta-analysis
- Intensive versus Standard Blood-Pressure Control: SPRINT Study

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,

Medical Team, Micro Labs Limited

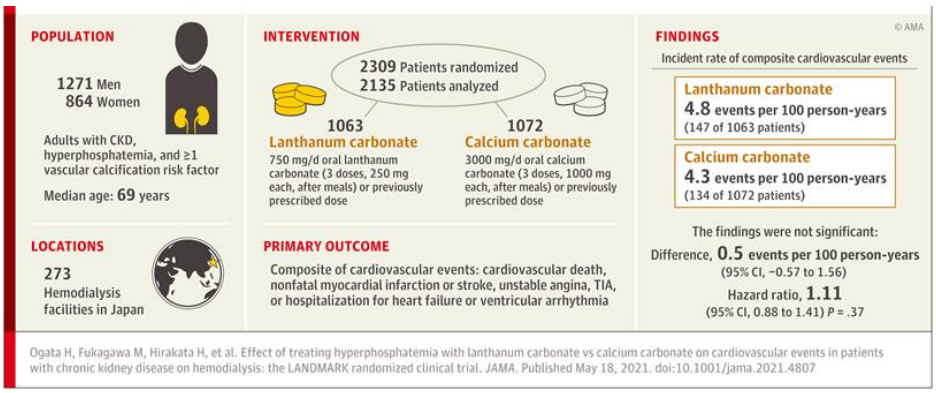
Effect of Treating Hyperphosphatemia With Lanthanum Carbonate vs Calcium Carbonate on CV Events in Patients With CKD Undergoing Hemodialysis: The LANDMARK Randomized Clinical Trial

Among patients with hyperphosphatemia undergoing dialysis, it is unclear whether non–calcium-based phosphate binders are more effective than calcium-based binders for reducing cardiovascular events. The study was conducted to determine whether lanthanum carbonate reduces cardiovascular events compared with calcium carbonate in patients with

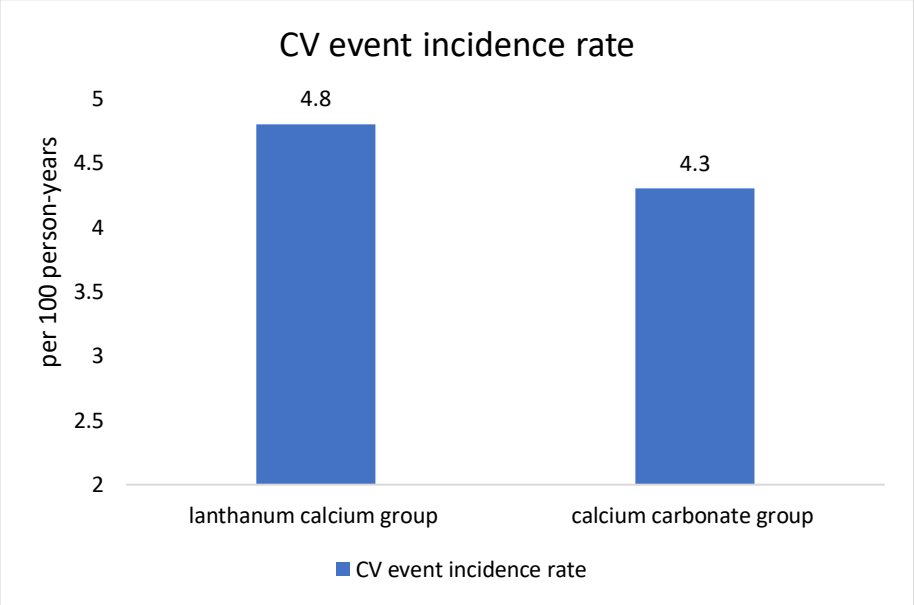
hyperphosphatemia at risk of vascular calcification undergoing hemodialysis.

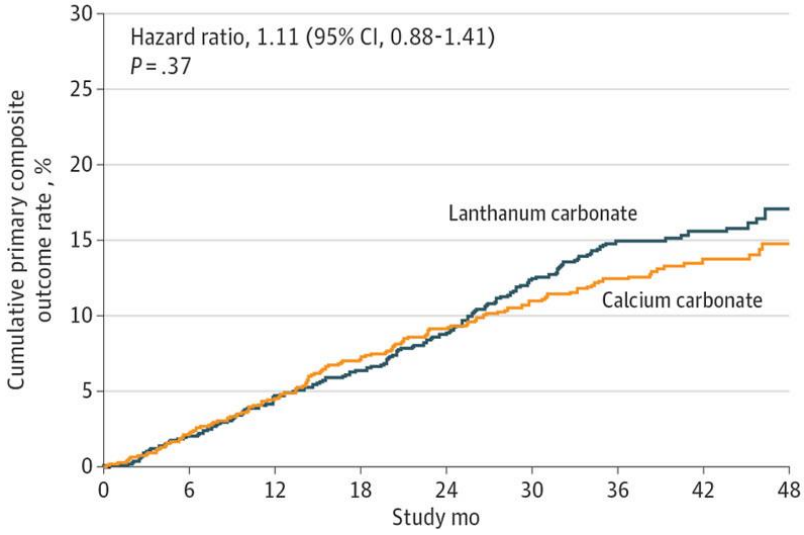
This was an open-label, randomized, parallel-group clinical trial with blinded end point adjudication performed in 2374 patients with chronic kidney disease from 273 hemodialysis facilities in Japan. Eligible patients had hyperphosphatemia and 1 or more risk factors for vascular calcification (ie, ≥65 years, postmenopausal, diabetes). Enrollment occurred from November 2011 to July 2014; follow-up ended June 2018. Patients were randomized to receive either lanthanum carbonate (n = 1154) or calcium carbonate (n = 1155) and titrated to achieve serum phosphate levels of between 3.5 mg/dL and 6.0 mg/dL.

The primary outcome was a composite cardiovascular event (cardiovascular death, nonfatal myocardial infarction or stroke, unstable angina, transient ischemic attack, or hospitalization for heart failure or ventricular arrhythmia). Secondary outcomes included overall survival, secondary hyperparathyroidism-free survival, hip fracture–free survival, and adverse events.



Among 2309 randomized patients (median age, 69 years; 40.5% women), 1851 (80.2%) completed the trial. After a median follow-up of 3.16 years, cardiovascular events occurred in 147 of 1063 patients in the lanthanum calcium group and 134 of 1072 patients in the calcium carbonate group (incidence rate, 4.80 vs 4.30 per 100 person-years; difference 0.50 per 100 person-years [95% CI, −0.57 to 1.56]; hazard ratio [HR], 1.11 [95%, CI, 0.88 to 1.41], P = .37). There were no significant differences in all-cause death (difference, 0.43 per 100 person-years [95% CI, −0.63 to 1.49]; HR, 1.10 [95% CI, 0.88 to 1.37]; P = .42) or hip fracture (difference, 0.10 per 100 person-years [95% CI, −0.26 to 0.47]; HR, 1.21 [95% CI, 0.62 to 2.35]; P = .58).





The lanthanum carbonate group had an increased risk of cardiovascular death (difference, 0.61 per 100 person-years [95% CI, 0.02 to 1.21]; HR, 1.51 [95% CI, 1.01 to 2.27]; P = .045) and secondary hyperparathyroidism (difference, 1.34 [95% CI, 0.49 to 2.19]; HR, 1.62 [95% CI, 1.19 to 2.20]; P = .002). Adverse events occurred in 282 (25.7%) in the lanthanum carbonate group and 259 (23.4%) in the calcium carbonate groups.

Among patients undergoing hemodialysis with hyperphosphatemia and at least 1 vascular calcification risk factor, treatment of hyperphosphatemia with lanthanum carbonate compared with calcium carbonate did not result in a significant difference in composite cardiovascular events. However, the event rate was low, and the findings may not apply to patients at higher risk.

Source: Ogata H et al. JAMA. 2021 May 18;325(19):1946-1954.

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Triple vs Dual Inhaler Therapy and Asthma Outcomes in Moderate to Severe Asthma A Systematic Review and Meta-analysis

The benefits and harms of adding long-acting muscarinic antagonists (LAMAs) to inhaled corticosteroids (ICS) and long-acting β2-agonists (LABAs) for moderate to severe asthma remain unclear.

The study was done to systematically synthesize the outcomes and adverse events associated with triple therapy (ICS, LABA, and LAMA) vs dual therapy (ICS plus LABA) in children and adults with persistent uncontrolled asthma. Data Sources MEDLINE, Embase, CENTRAL, ICTRP, FDA, and EMA databases from November 2017, to December 8, 2020, without language restriction.

Severe exacerbations, asthma control (measured using the Asthma Control Questionnaire [ACQ-7], a 7-item list with each item ranging from 0 [totally controlled] to 6 [severely uncontrolled]; minimal important difference, 0.5), quality of life (measured using the Asthma-related Quality of Life [AQLQ] tool; score range, 1 [severely impaired] to 7 [no impairment]; minimal important difference, 0.5), mortality, and adverse events.

Twenty RCTs using 3 LAMA types that enrolled 11 894 children and adults (mean age, 52 years [range, 9-71 years]; 57.7% female) were included. High-certainty evidence showed that triple therapy vs dual therapy was significantly associated with a reduction in severe exacerbation risk (9 trials [9932 patients]; 22.7% vs 27.4%; risk ratio, 0.83 [95% CI, 0.77 to 0.90]) and an

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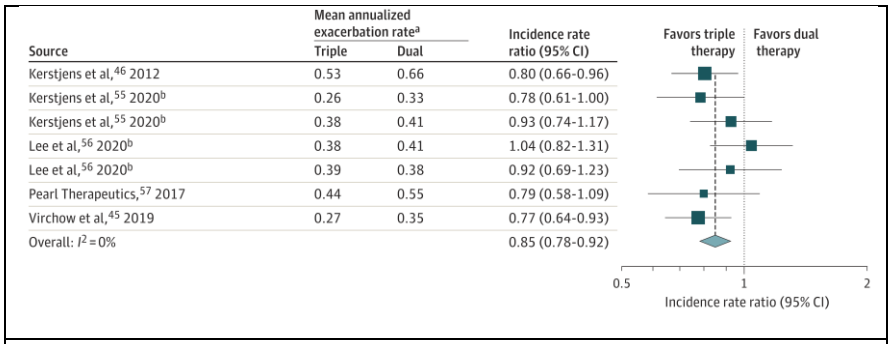
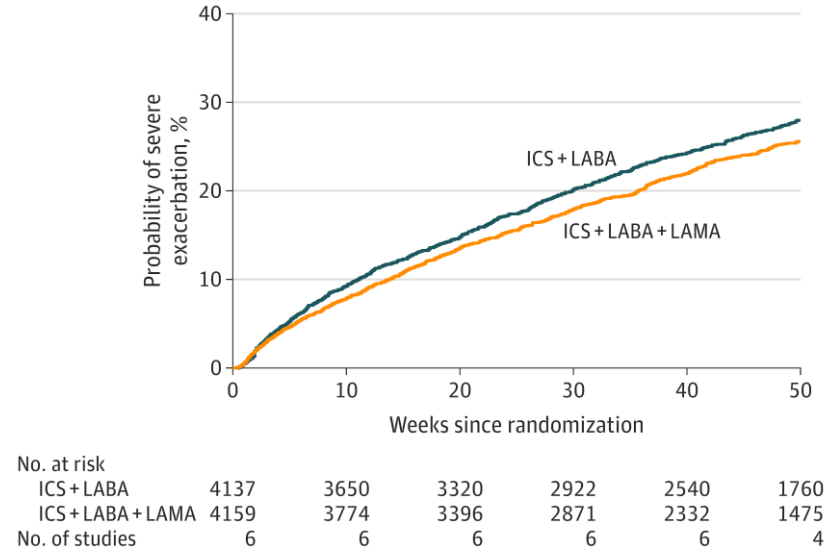
improvement in asthma control (14 trials [11 230 patients]; standardized mean difference [SMD], −0.06 [95% CI, −0.10 to −0.02]; mean difference in ACQ-7 scale, −0.04 [95% CI, −0.07 to −0.01]). There were no significant differences in asthma-related quality of life (7 trials [5247 patients]; SMD, 0.05 [95% CI, −0.03 to 0.13]; mean difference in AQLQ score, 0.05 [95% CI, −0.03 to 0.13]; moderate-certainty evidence) or mortality (17 trials [11 595 patients]; 0.12% vs 0.12%; risk ratio, 0.96 [95% CI, 0.33 to 2.75]; high-certainty evidence) between dual and triple therapy. Triple therapy was significantly associated with increased dry mouth and dysphonia (10 trials [7395 patients]; 3.0% vs 1.8%; risk ratio, 1.65 [95% CI, 1.14 to 2.38]; high-certainty evidence), but treatment-related and serious adverse events were not significantly different between groups (moderate-certainty evidence).



Incidence rate ratio of exacerbations



Kaplan-Meier Failure Curves of Time to First Severe Exacerbation in Patients Assigned to Triple vs Dual Asthma Inhaler Therapy

Among children (aged 6 to 18 years) and adults with moderate to severe asthma, triple therapy, compared with dual therapy, was significantly associated with fewer severe asthma exacerbations and modest improvements in asthma control without significant differences in quality of life or mortality.

Source: Kim LHY et al. JAMA. 2021 May 19. doi: 10.1001/jama.2021.7872

Intensive versus Standard Blood-Pressure Control: SPRINT Study

In a previously reported randomized trial of standard and intensive systolic blood-pressure control, data on some outcome events had yet to be adjudicated and post-trial follow-up data had not yet been collected.

We randomly assigned 9361 participants who were at increased risk for cardiovascular disease but did not have diabetes or previous stroke to adhere to an intensive treatment target (systolic blood pressure, <120 mm Hg) or a standard treatment target (systolic blood pressure, <140 mm Hg). The primary outcome was a composite of myocardial infarction, other acute coronary syndromes, stroke, acute decompensated heart failure, or death from cardiovascular causes. Additional primary outcome events occurring through the end of the intervention period (August 20, 2015) were adjudicated after data lock for the primary analysis. We also analyzed post-trial observational follow-up data through July 29, 2016.

At a median of 3.33 years of follow-up, the rate of the primary outcome and all-cause mortality during the trial were significantly lower in the intensive-treatment group than in the standard-treatment group (rate of the primary outcome, 1.77% per year vs. 2.40% per year; hazard ratio, 0.73; 95% confidence interval [CI], 0.63 to 0.86; all-cause mortality, 1.06% per year vs. 1.41% per year; hazard ratio, 0.75; 95% CI, 0.61 to 0.92). Serious adverse events of hypotension, electrolyte abnormalities, acute kidney injury or failure, and syncope were significantly more frequent in the intensive-treatment group. When trial and post-

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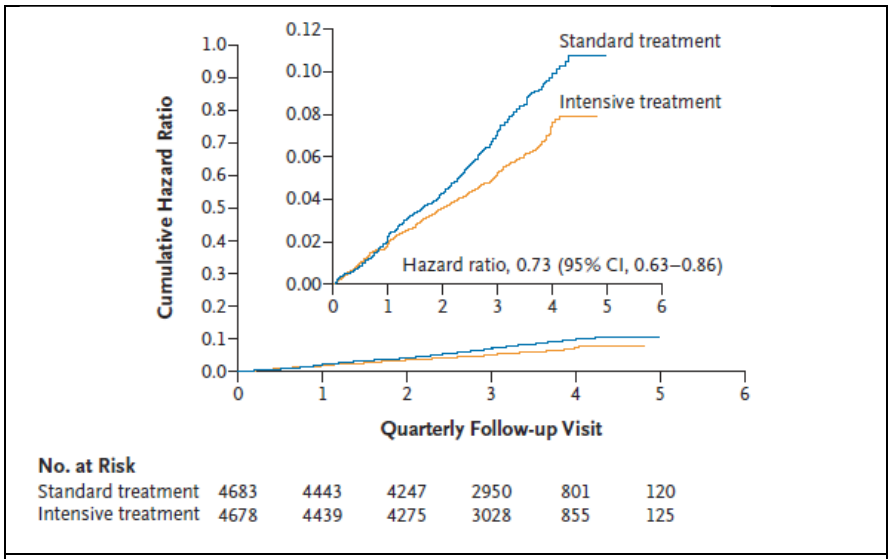
trial follow-up data were combined (3.88 years in total), similar patterns were found for treatment benefit and adverse events; however, rates of heart failure no longer differed between the groups.



Cumulative Hazard Ratios for the Primary Outcome during the Intervention Period

Among patients who were at increased cardiovascular risk, targeting a systolic blood pressure of less than 120 mm Hg resulted in lower rates of major adverse cardiovascular events and lower all-cause mortality than targeting a systolic blood pressure of less than 140 mm Hg, both during receipt of the randomly assigned therapy and after the trial. Rates of some adverse events were higher in the intensive-treatment group.

Source: SPRINT Research Group. N Engl J Med. 2021 May 20;384(20):1921-1930.