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

- Polypill with or without Aspirin in Persons without CVD: The TIPS 3 study
- Home and Online Management and Evaluation of BP (HOME BP) using a digital intervention in poorly controlled hypertension
- Effect of Bamlanivimab as Monotherapy or in Combination With Etesevimab on Viral Load in Patients With Mild to Moderate COVID-19: BLAZE 1 trial

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

Polypill with or without Aspirin in Persons without CVD: The TIPS 3 study

Cardiovascular diseases has resulted in a significant burden . It accounts for approximately 18 million deaths each year worldwide, with more than 3/4th of deaths occurring in low-income and middle income countries. High blood pressure and an higher low-density lipoprotein (LDL) cholesterol levels are among the most important modifiable risk factors for cardiovascular disease.

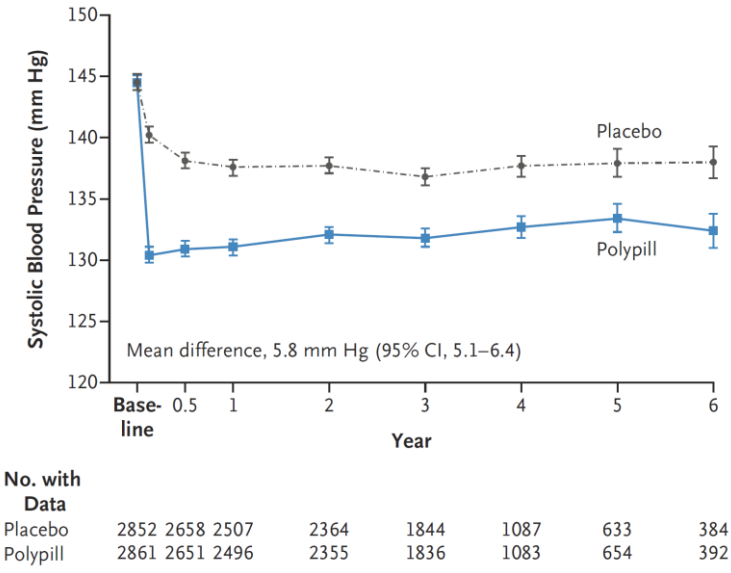
The associations of these risk factors with myocardial infarction and stroke are graded, and so their simultaneous reductions, regardless of initial levels, should, theoretically, lead to

substantial reductions in the incidence of cardiovascular disease. These concepts provide part of the rationale for the use of "polypills," in high risk population which combine lipid-lowering and blood-pressure–lowering medications,.

TIPS-3 (the International Polycap Study 3) was a double-blind, randomized, placebo controlled trial with a 2-by-2-by-2 factorial design to test separately whether treatment with a polypill consisting of a statin and multiple blood-pressure–lowering drugs, aspirin alone, or their combination would reduce the incidence of cardiovascular events among persons without cardiovascular disease.

The TIPS-3 randomly assigned participants without cardiovascular disease who had an elevated INTERHEART Risk Score to receive a polypill (containing 40 mg of simvastatin, 100 mg of atenolol, 25 mg of hydrochlorothiazide, and 10 mg of ramipril) or placebo daily, aspirin (75 mg) or placebo daily, and vitamin D or placebo monthly. We report here the outcomes for the polypill alone as compared with matching placebo, for aspirin alone as compared with matching placebo, and for the polypill plus aspirin as compared with double placebo. For the polypill-alone and polypill-plus-aspirin comparisons, the primary outcome was death from cardiovascular causes, myocardial infarction, stroke, resuscitated cardiac arrest, heart failure, or revascularization. For the aspirin comparison, the primary outcome was death from cardiovascular causes, myocardial infarction, or stroke. Safety was also assessed.

A total of 5713 participants underwent randomization, and the mean follow-up was 4.6 years. The low-density lipoprotein cholesterol level was lower by approximately 19 mg per deciliter and systolic blood pressure was lower by approximately 5.8 mm Hg with the polypill and with combination therapy than with placebo. The primary outcome for the polypill comparison occurred in 126 participants (4.4%) in the polypill group and in 157 (5.5%) in the placebo group (hazard ratio, 0.79; 95% confidence interval [CI], 0.63 to 1.00). The primary outcome for the aspirin comparison occurred in 116 participants (4.1%) in the aspirin group and in 134 (4.7%) in the placebo group (hazard ratio, 0.86; 95% CI, 0.67 to 1.10). The primary outcome for the polypill-plus-aspirin comparison occurred in 59 participants (4.1%) in the combined-treatment group and in 83 (5.8%) in the double-placebo group (hazard ratio, 0.69; 95% CI, 0.50 to 0.97). The incidence of hypotension or dizziness was higher in groups that received the polypill than in their respective placebo groups.



Changes in Systolic Blood Pressure

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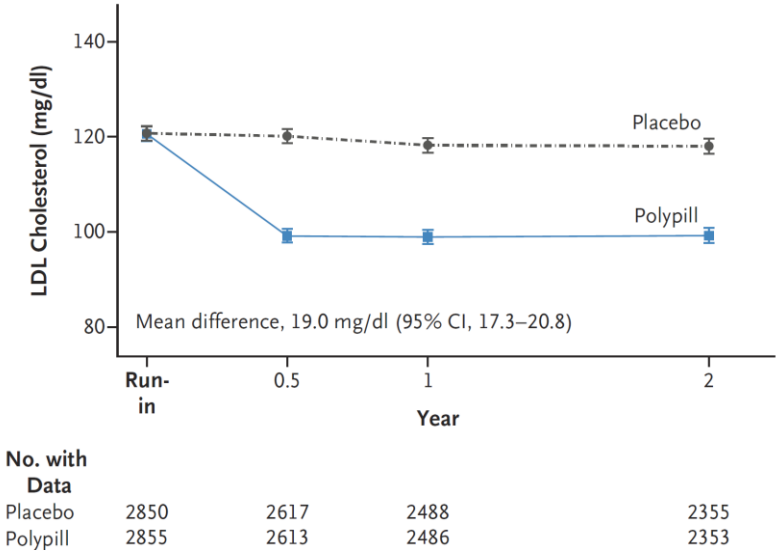
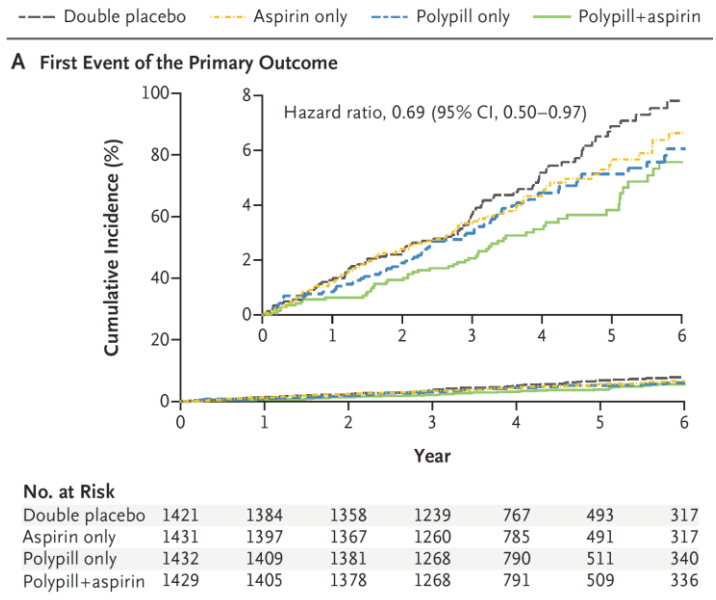


Changes in LDL Cholesterol



Effects of the Polypill plus Aspirin, as Compared with Double Placebo, on Clinical Outcomes.

The cumulative incidence of a first composite-primary-outcomen event (death from cardiovascular causes, myocardial infarction,ntroke, heart failure, resuscitated cardiac arrest, or arterial revascularization) for the comparison of combination therapy with a polypill plus aspirin with placebo.

In this large, randomized trial, the combination treatment with a polypill (consisting of a statin plus three blood-pressure–lowering drugs) plus aspirin led to a lower incidence of cardiovascular events than did placebo among participants without established cardiovascular disease who were at intermediate cardiovascular risk.

Source: Yusuf S et al. N Engl J Med. 2021 Jan 21;384(3):216-228. doi: 10.1056/NEJMoa2028220.

Home and Online Management and Evaluation of BP (HOME BP) using a digital intervention in poorly controlled hypertension

Hypertension is one of the prime risk factors for cardiovascular disease. Newer interventions are required to increase awareness and improve better blood pressure control. In the era of digitalisation, Digital interventions (apps, programmes, or software used in a health context) have the potential to support people in self-management.

The Home and Online Management and Evaluation of BP (HOME BP) trial aimed to evaluate whether a digital intervention comprising self-monitoring of blood pressure with reminders and predetermined drug changes combined with lifestyle change support resulted in lower systolic blood pressure in people

receiving treatment for hypertension that was poorly controlled, and whether this approach was cost effective.

622 people with treated but poorly controlled hypertension (>140/90 mm Hg) and access to the internet were included in the study.

Participants were randomised by using a minimisation algorithm to self-monitoring of blood pressure with a digital intervention (305 participants) or usual care (routine hypertension care, with appointments and drug changes made at the discretion of the general practitioner; 317 participants). The digital intervention provided feedback of blood pressure results to patients and professionals with optional lifestyle advice and motivational support. Target blood pressure for hypertension, diabetes, and people aged 80 or older followed UK national guidelines.

After one year, data were available from 552 participants (88.6%) with imputation for the remaining 70 participants (11.4%). Mean blood pressure dropped from 151.7/86.4 to 138.4/80.2 mm Hg in the intervention group and from 151.6/85.3 to 141.8/79.8 mm Hg in the usual care group, giving a mean difference in systolic blood pressure of −3.4 mm Hg (95% confidence interval −6.1 to −0.8 mm Hg) and a mean difference in diastolic blood pressure of −0.5 mm Hg (−1.9 to 0.9 mm Hg). Results were comparable in the complete case analysis and adverse effects were similar between groups.

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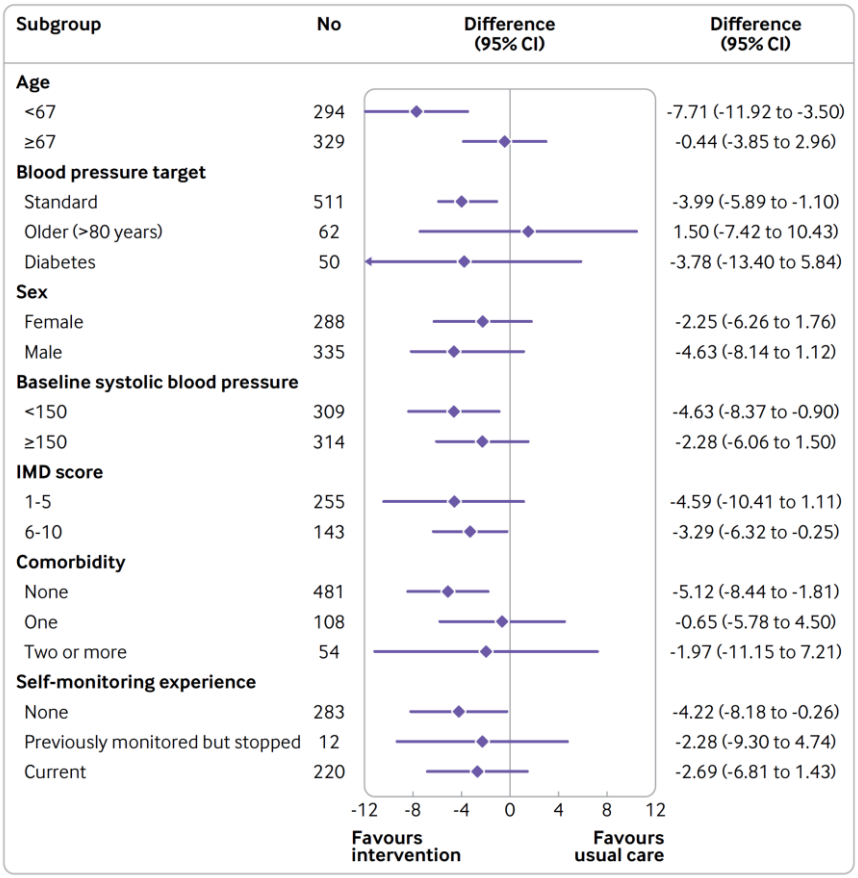

The HOME BP digital intervention for the management of hypertension by using self-monitored blood pressure led to better control of systolic blood pressure after one year than usual care. The HOME BP digital intervention, combined with self-monitoring, has the potential to provide cost effective support for patients and professionals in lowering blood pressure.

Source: McManus et al. BMJ 2021;372:m4858. http://dx.doi.org/10.1136/bmj.m4858

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Effect of Bamlanivimab as Monotherapy or in Combination With Etesevimab on Viral Load in Patients With Mild to Moderate COVID-19: BLAZE 1 trial

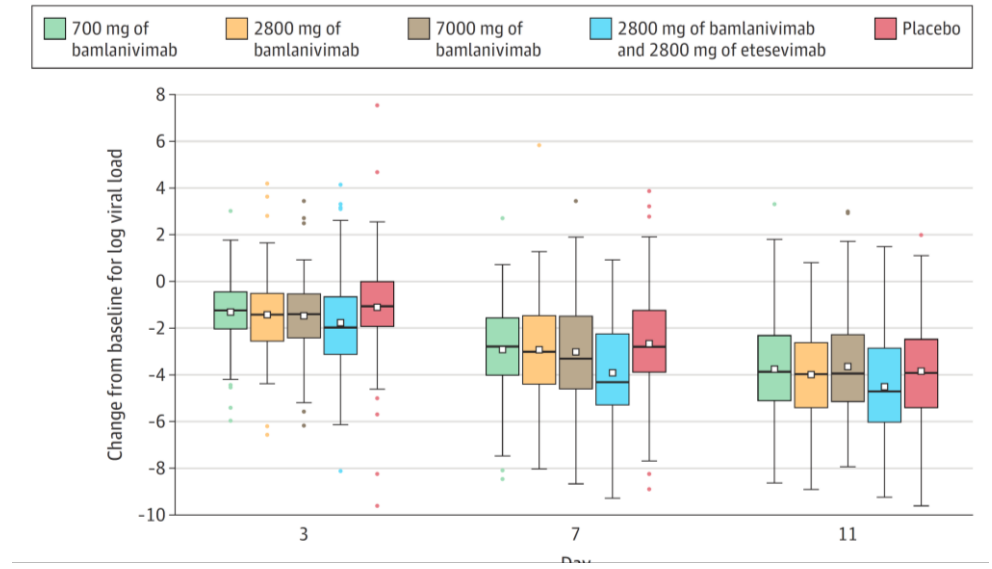
The COVID-19 pandemic has caused a significant healthcare burden across the globe. Bamlanivimab (also known as LY3819253 or LY-CoV555) and etesevimab (LY3832479 or LY-CoV016) are potent antispike neutralizing monoclonal antibodies that were derived from 2 separate patients who recovered from COVID-19 in North America and China, respectively.

The current report presents the data set of BLAZE -1 trial (Blocking Viral Attachment and Cell Entry with SARS-CoV-2 Neutralizing Antibodies). This clinical trial is an ongoing, multipart, phase 2/3, randomized, double-blind, placebo-controlled, single-infusion study including patients with recently diagnosed mild or moderate COVID-19 in the outpatient setting. The study was conducted to determine the effect of bamlanivimab monotherapy and combination therapy with bamlanivimab and etesevimab on severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) viral load in mild to moderate COVID-19. Patients were randomized to receive a single infusion of bamlanivimab (700mg [n = 101], 2800mg [n = 107], or 7000mg [n = 101]), the combination treatment (2800mg of bamlanivimab and 2800mg of etesevimab [n = 112]), or placebo (n = 156).

Among the 577 patients who were randomized and received an infusion (mean age, 44.7 [SD, 15.7] years; 315 [54.6%] women), 533 (92.4%) completed the efficacy evaluation period (day 29). The change in log viral load from baseline at day 11 was –3.72 for

700 mg, −4.08 for 2800 mg, −3.49 for 7000 mg, −4.37 for combination treatment, and −3.80 for placebo. Compared with placebo, the differences in the change in log viral load at day 11 were 0.09 (95% CI, −0.35 to 0.52; P = .69) for 700 mg, −0.27 (95% CI, −0.71 to 0.16; P = .21) for 2800 mg, 0.31 (95% CI, −0.13 to 0.76; P = .16) for 7000 mg, and −0.57 (95% CI, −1.00 to −0.14; P = .01) for combination treatment. Among the secondary outcome measures, differences between each treatment group vs the placebo group were statistically significant for 10 of 84 end points. The proportion of patients with COVID-19–related hospitalizations or ED visits was 5.8% (9 events) for placebo, 1.0% (1 event) for 700 mg, 1.9% (2 events) for 2800 mg, 2.0% (2 events) for 7000 mg, and 0.9% (1 event) for combination treatment.

Change in Log Viral Load and in Viral Load Cycle Threshold Over Time With Bamlanivimab Monotherapy and Bamlanivimab and Etesevimab Combination Therapy



Box plot for change from baseline to log viral load

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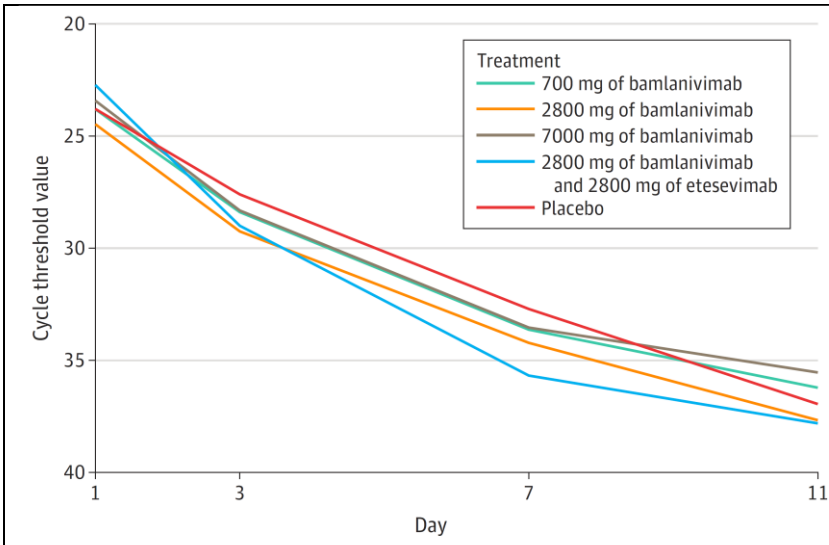

Mean SARS-CoV-2 viral load cycle threshold value

Among non-hospitalized patients with mild to moderate COVID-19 illness, treatment with bamlanivimab and etesevimab, compared with placebo, was associated with a statistically significant reduction in SARS-CoV-2 viral load at day 11; no significant difference in viral load reduction was observed for bamlanivimab monotherapy. Further ongoing clinical trials will focus on assessing the clinical benefit of anti-spike neutralizing antibodies in patients with COVID-19 as a primary end point.

Source: Gottlieb RL et al. JAMA. 2021 Jan 21. doi: 10.1001/jama.2021.0202.