Physician connect

Vol 1 | Issue 5| 2020

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

- Position Statement of the ESC Council on Hypertension on ACE Inhibitors and ARBs
- Combining a polygenic score with lifetime exposure to LDL-C and BP for prediction of lifetime CV risk
- Analysis of Bempedoic Acid for Dyslipidemia in Statin-Intolerant Patients

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

Position Statement of the ESC Council on Hypertension on ACE Inhibitors and ARBs

Based on initial reports from China, and subsequent evidence that arterial hypertension may be associated with increased risk of mortality in hospitalized COVID-19 infected subjects, hypotheses have been put forward to suggest a potential adverse effects of angiotensin converting enzyme inhibitors (ACE-i) or Angiotensin Receptor Blockers (ARBs). It has been suggested, especially on social media sites, that these commonly used drugs may increase both the risk of infection and the severity of SARS-CoV2. The concern arises from the observation that, similar to the coronavirus causing SARS, the COVID-19 virus binds to a specific enzyme called ACE2 to infect cells, and ACE2 levels are increased following treatment with ACE-i and ARBs.

The Council on Hypertension strongly recommend that physicians and patients should continue treatment with their usual anti-hypertensive therapy because there is no clinical or scientific evidence to suggest that treatment with ACEi or ARBs should be discontinued because of the Covid-19 infection.

Because of the social media-related amplification, patients taking these drugs for their high blood pressure and their doctors have become increasingly concerned, and, in some cases, have stopped taking their ACE-I or ARB medications.

This speculation about the safety of ACE-i or ARB treatment in relation to COVID-19 does not have a sound scientific basis or evidence to support it. Indeed, there is evidence from studies in animals suggesting that these medications might be rather protective against serious lung complications in patients with COVID-19 infection, but to date there is no data in humans.

The Council on Hypertension of the European Society of Cardiology wish to highlight the lack of any evidence supporting harmful effect of ACE-I and ARB in the context of the pandemic COVID-19 outbreak. The Council on Hypertension strongly recommend that physicians and patients should continue treatment with their usual anti-hypertensive therapy because there is no clinical or scientific evidence to suggest that treatment with ACEi or ARBs should be discontinued because of the Covid-19 infection

Source: Available at https://www.escardio.org/Councils/Council-on-Hypertension-(CHT)/News/position-statement-of-the-esc-council-on-hypertension-on-ace-inhibitors-and-ang. Accessed on 03-04-2020.

Combining a polygenic score with lifetime exposure to LDL-C and BP for prediction of lifetime CV risk

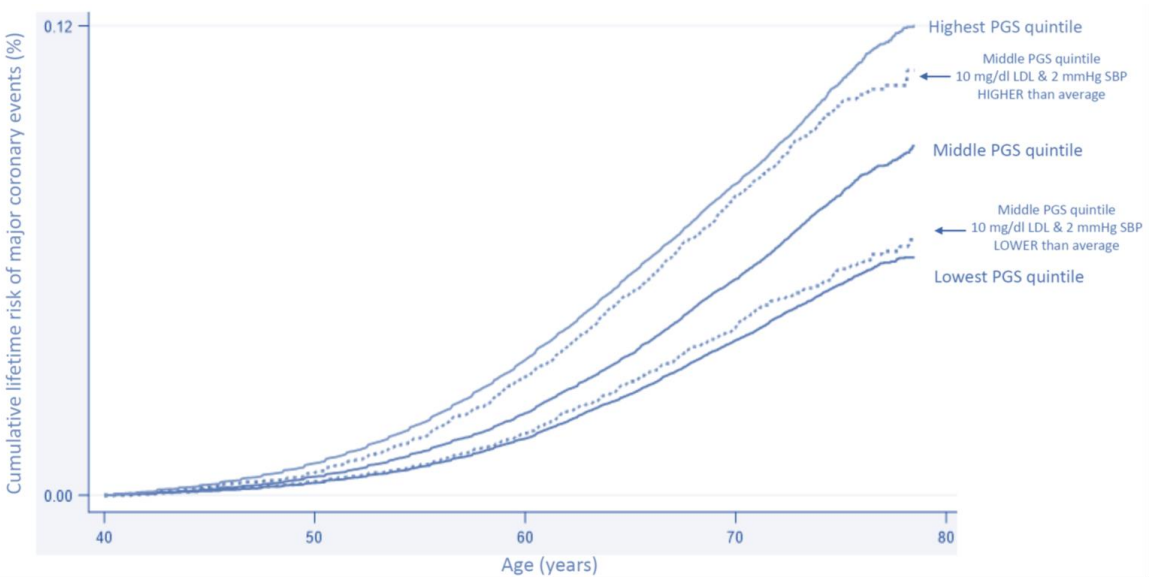
There is a great interest in polygenic scores (PGS) to predict CVD. However, recent studies suggest that adding PGS to short term risk estimation equation may not provide meaningful information. PGS have may potential clinical value in that they predict lifetime risk early in life, before the onset of disease and identify persons with high lifetime CV risk, who will benefit from early intervention. Recent evidence suggest that effects of high LDL-c levels and blood pressure (BP) accumulate over time. Use of PGS may identify those with high lifetime CV risk and these high-risk patients may benefit from early intervention by minimizing lifetime exposure to high LDL-c and BP. This personalized strategy of screening and treatment decisions could have an important clinical impact.

A polygenic score (PGS) for CAD could help identify patients most likely to benefit from early interventions to prevent CVD

This study examined lifetime CV risk at all levels of a PGS for coronary artery disease (CAD) depending on difference in lifetime exposure to LDL-c and systolic BP (SBP) using Mendelian randomization in order to make inferences about how a PGS for CAD can be combined with information on LDL-c and SBP. 445,566 Participants in the UK Biobank were enrolled in this study (54% female, mean age: 57.2 years). Primary outcome was major coronary events, a composite of first occurrence of fatal or non-fatal myocardial infarction or coronary vascularization. Using all participants in the UK Biobank, a polygenic score with 4,051,820 variants was deconstructed into an LDL score and an SBP score from Mendelian randomization, and a residual PGS representing all other pathways (variants significantly associated with LDL-c or SBP were excluded from constructing PGS). The highlights of the study was

- Quintiles for PGS showed a stepwise increase in risk of major coronary events (quintile 5: HR 2.77, 95%CI:2.65-2.89, with quintile 1 as reference).
- Risk of major coronary events was higher in those with highest PGS across all ages.

- Trajectories of CV risk in quintiles of PGS varied substantially by lifetime exposure to LDL-c and SBP. For example, those in the middle PGS quintile with a 10 mg/dL increase in LDL-c and 2 mmHg increase in BP had a similar CV risk as those in the highest PGS quintile. In opposite direction, those in the middle PGS quintile with a 10 mg/dL decrease in LDL-c and 2 mmHg decrease in BP had a similar CV risk as those in the lowest PGS quintile.



- CV risk appeared to be determined by the combination of PGS and lifetime exposure to LDL-c and BP. Across all quintiles of PGS, CV risk remained low with low exposure to LDL-c and BP. Lifetime CV risk was 2-3 fold higher in those in the lowest PGS and high exposure to LDL-c and BP compared to those in the highest PGS and low exposure to LDL-c and BP ($P<0.001$).
- Those in the highest PGS did not per se benefit the most from treatment of LDL-c and BP lowering. Participants with highest LDL-c and BP levels had highest expected benefit with lowering LDL-c and SBP across the range of PGS quintiles.
- Combining PGS for CAD with information on lifetime exposure to LDL-C and SBP more accurately estimates lifetime risk of CVD, more accurately identifies subjects who benefit from early intervention, and better estimates potential benefit from early interventions. This strategy may help in personalizing CV risk and prevention.

Source: Ference BA et al. Combining Polygenic Scores With LDL, SBP Data Could Help Estimate CV Risk. ACC 2020.

Meta-Analysis of Bempedoic Acid for Dyslipidemia in Statin-Intolerant Patients

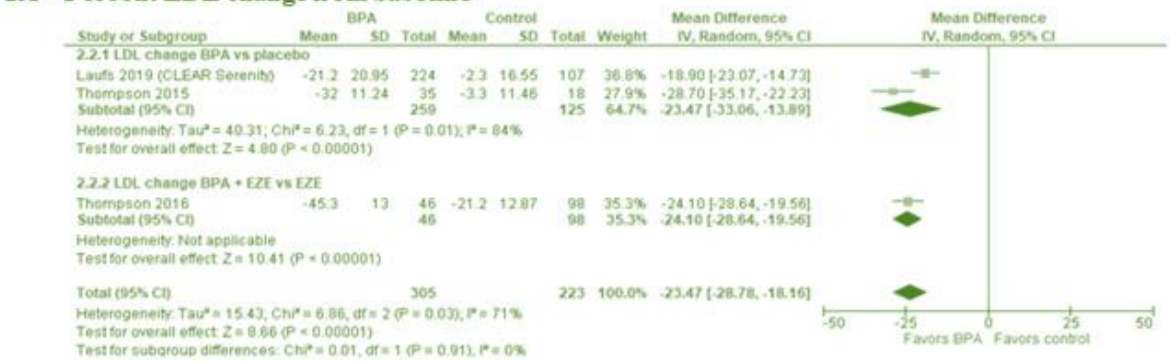
There is lack of evidence for the treatment of statin intolerant patients with dyslipidemia. Pubmed, Embase, Scopus and Cochrane library were searched for randomized controlled trials in adults with dyslipidemia and documented statin intolerance. The safety and efficacy of bempedoic acid (BPA) in dyslipidemia were evaluated.

Bempedoic acid (BPA) was associated with greater mean percentage reduction of LDL, non-HDL and TC

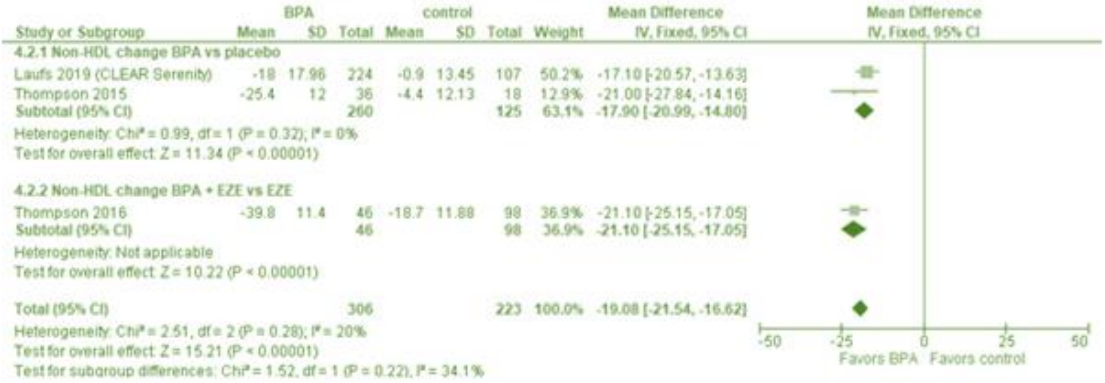
Studies comparing either BPA alone versus placebo, or BPA plus a second agent versus the second agent alone were evalauted. Outcomes were serious adverse events, muscle related events and least square mean % change of LDL, non-HDL and total cholesterol (TC). Odds ratio (OR) was used for the dichotomous variables and mean difference (MD) for the continuous variables. A 95% confidence interval (CI) was adopted.

3 studies (529 patients), 2 with BPA versus placebo and 1 with BPA + ezetimibe (EZE) versus EZE were included. Follow-up was 8-24 weeks. Mean difference of % changes of LDL (MD -23.47 [-28.784, -18.16], p < 0.00001, **Fig1A**), non-HDL (MD -19.08 [-21.54, -16.62], p < 0.00001, **Fig1B)** and TC (MD -16.60 [-19.32, -13.88], p < 0.00001, **Fig1C**) were all statistically significant favoring the BPA group.

1A – Percent LDL change from baseline

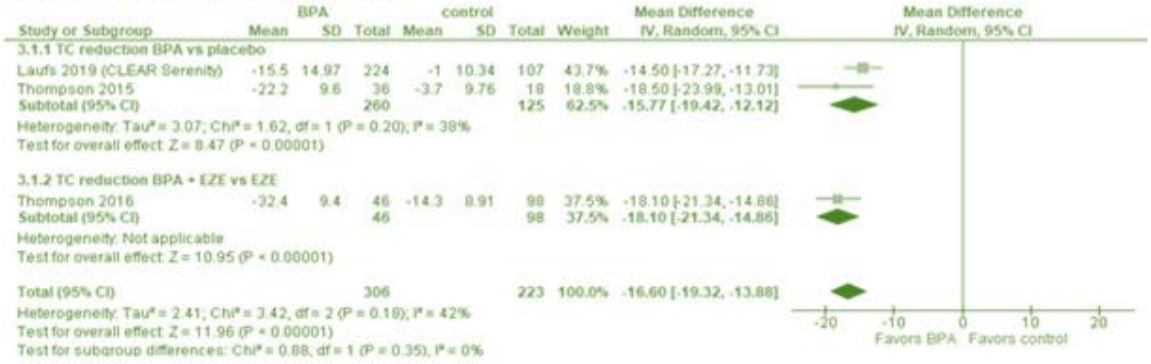


1B – Percentage Non-HDL change from baseline



No difference was found regarding the incidence of serious adverse events (OR 1.26 [0.56, 2.85], p = 0.57) or muscle related events (OR 1.03 [0.61, 1.74], p = 0.91).

1C – Percentage change from baseline



Bempedoic acid (BPA) was associated with greater mean percentage reduction of LDL, non-HDL and TC when compared to control. No difference in serious adverse events or muscle related events was found.

Source: Fernandes A et al. A Meta-Analysis of Bempedoic Acid For Dyslipidemia In Statin-Intolerant Patients. ACC 2020.