The Scientific Times

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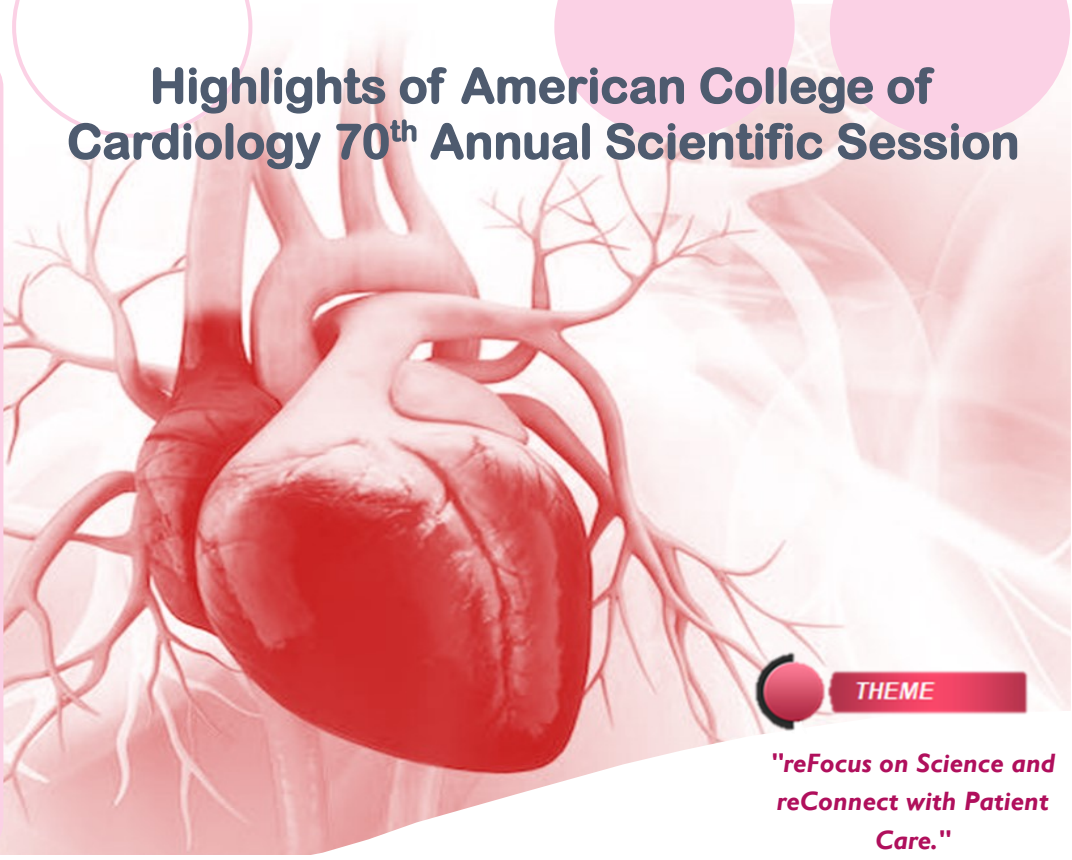
ACC

The American College of Cardiology (ACC) is a leading health care society in the field of cardiology where innovation and knowledge optimize cardiovascular care and outcomes.

It highlights the need for more streamlined and efficient processes to implement best clinical practices to improved heart care in patients.

The College also provides professional education, through its world-renowned JACC Journals it publishes cardiovascular research, operates national registries to measure and improve care, and offers cardiovascular accreditation to hospitals and institutions.

Highlights of American College of Cardiology 70th Annual Scientific Session



THEME

"reFocus on Science and reConnect with Patient Care."

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ACC.21 VIRTUAL May 15 – 17

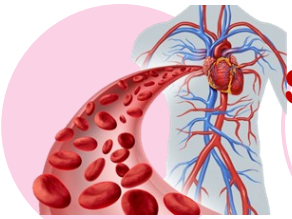
Every year American College of Cardiology (ACC) conducts a conference with the latest health guidelines in place to **reImagine Global Heart Health** with a focus on the latest science, innovation and practice-changing updates and its impact on health care.

This year, The ACC 70th Annual Scientific Session & Expo was held in May, in Atlanta, USA, with a virtual experience offering more opportunities to engage and interact with the participants around the world with the theme of ***"reFocus on Science and reConnect with Patient Care."***

More than 300 sessions featuring practice-changing research with more than 3,3000 eAbstracts were discussed in the conference.

The latest cardiology practice-changing scientific breakthrough, late-breaking studies were presented in the meeting. Top experts debated and discussed the outcomes of the hottest trials at ACC.21 and explained how it all fits into current cardiology practice. There were five late-breaking clinical trial sessions conducted to help cardiologists stay up-to-date on the newest clinical research. Highlights of the key landmark trials are discussed in this volume.

Wishing an insightful reading.



Sotagliflozin Reveals its Benefits in Heart Failure

A dual SGLT inhibitor, **Sotagliflozin** is the one and only SGLT inhibitor which acts by inhibiting both SGLT1 and SGLT2 transporters was found effective in heart failure (HF) .

The drug was found effective not only in HF with reduced ejection fraction (HFrEF) but also with preserved ejection fraction (HFpEF) proved a meta-analysis of two trials SCORED and SOLOIST–WHF, which included 4,500 patients for a median of about 15 months with type 2 diabetes and diagnosed HF.

It was evaluated for the outcome of CV death, hospitalization due to HF or urgent outpatient visits for HF (primary composite).

Significant reduction in primary composite

Sotagliflozin reported significant reductions in primary composite in all the three subgroups with left ventricular ejection fraction (LVEF) of at least 50% (HFpEF), LVEF of less than 40% (HFrEF), and LVEF of 40%-49% (HF with mid-range ejection fraction- HFmrEF).

Surprisingly, LVEFs in the range of 25% also benefit with no difference at any other level across the LVEF spectrum. This showed a remarkable clinical benefit of Sotagliflozin across all range of LVEFs.

These new findings could pose Sotagliflozin a regulatory indication for patients with type 2 diabetes and HF across the entire spectrum of HF including HFpEF.

Currently, two ongoing pivotal trials are examining Dapagliflozin and Empagliflozin in patients with HFpEF with awaiting positive results. This might up appraise SGLT2 inhibitors and Sotagliflozin as dynamic class in treating HF events in patients with HFpEF.

"Remarkable SGLT Inhibitor effective across all range of LVEFs"

Is Dapagliflozin Effective for Organ Protection in COVID-19?

Dapagliflozin, a SGLT2 inhibitor is already proven to protect the major organs in patients with Type 2 diabetes, HF and chronic kidney disease. Further to evaluate that Dapagliflozin could also benefit high-risk hospitalized COVID-19 patients and provides organ protection; DARE-19 trial was conducted.

1,250 high-risk (≥1 risk factor like hypertension, type 2 diabetes, atherosclerotic cardiovascular disease [ASCVD], heart failure or chronic kidney disease) patients hospitalized with COVID-19 were randomly assigned to receive Dapagliflozin 10 mg or placebo once daily.

At the end of 30 days, Dapagliflozin was linked to 20% nonsignificant relative organ protection (HR, 0.80; 95% CI, 0.58-1.10). Although statistically the findings were not significant but numerically, only fewer patients experienced organ failure and death.

"Dapagliflozin may benefit in hospitalized COVID-19 patients".

DARE-19 provided important data on

the potential benefits and risks of using SGLT2 inhibitors to treat hospitalized patients with COVID-19. While the trial did not achieve statistical significance, the findings are very interesting and valuable, and will inform future clinical science.

(DARE-19 TRIAL : Dapagliflozin in Respiratory Failure in Patients With COVID-19)

HOST - EXAM TRIAL:

Clopidogrel Monotherapy Outperforms Aspirin

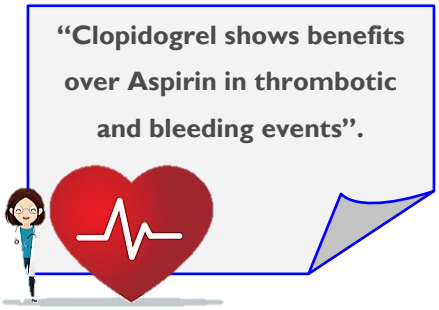
Clopidogrel monotherapy was superior to Aspirin monotherapy after 6 to 18 months of dual antiplatelet therapy following PCI (Percutaneous coronary intervention) according to data from the HOST-EXAM trial.

This trial randomized 5530 patients to compare the effectiveness of two antiplatelet drugs (Clopidogrel 75 mg or Aspirin 100 mg OD for 2 years) as long-term maintainance therapy for patients who had no adverse events with 6 to 12 months of prior DAPT.

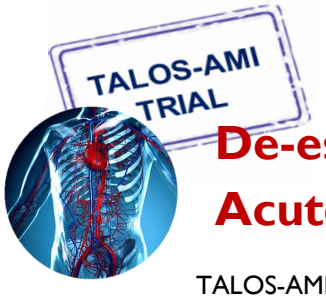
Remarkably after two years of follow-up, chronic maintenance therapy with Clopidogrel monotherapy resulted in a **30% reduction** in deaths, MI, stroke, readmission due to acute coronary syndrome, or major bleeding events as compared to Aspirin monotherapy.

A positive finding reflected a significant reduction in bleeding events. Clopidogrel outperformed Aspirin and benefits were noted with significant 27% reduction in bleeding events especially in severe bleeding (BARC type 3C), including intracranial bleeds or intraocular bleeds that could lead to blindness. Gastrointestinal bleeding was also reduced with Clopidogrel.

Findings from HOST-EXAM trial suggests that Clopidogrel monotherapy is a better alternative to Aspirin monotherapy in patients who were on DAPT. However, it will be interesting to know how widely these results are applied among clinicians who have been using Aspirin as long-term monotherapy after stent placement since years.



(HOST-EXAM TRIAL : Harmonizing Optimal Strategy for Treatment of coronary artery diseases-EXtended Antiplatelet Monotherapy)



De-escalation with Aspirin -Clopidogrel Benefits in Acute MI patients

TALOS-AMI study suggests switching from Ticagrelor to Clopidogrel 30 days after stenting may be a safer and more effective in acute myocardial infarction (MI).

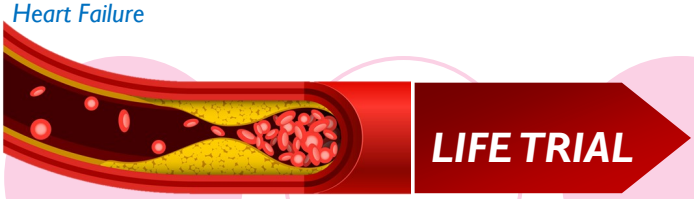
In this study 2697 acute MI patients were randomly assigned either to continue taking Ticagrelor + Aspirin daily for a year or to switch after 30 days to Clopidogrel + Aspirin (de-escalation). At one year, the composite of primary endpoint (death due to MI or stroke, a nonfatal MI or stroke, or bleeding requiring medical intervention) reduced by a significant 45% in the de-escalation group.

Merely 3% of patients experienced bleeding in the Clopidogrel group compared with 5.6% in the Ticagrelor group.

"De-escalation from Ticagrelor to Clopidogrel reduces the risk of death due to MI, 30 days after stenting".

Interestingly, the study stated that the need of higher-potency DAPT regimen with Ticagrelor was only during the initial 30 days after a MI, when the risks of another arterial blockage is highest and once this early phase has passed this regimen may be harmful. However, large-scale data are lacking on the optimal de-escalation strategy.

(TALOS-AMI TRIAL : TicAgrelor Versus CLOpidogrel in Stabilized Patients With Acute Myocardial Infarction)



LIFE TRIAL

Is ARNI Superior to Valsartan in Advanced Heart Failure?

In patients with advanced HF, angiotensin-receptor neprilysin inhibitor (ARNI), Sacubitril/Valsartan was not found superior to Angiotensin receptor blocker (ARB), Valsartan in lowering N-terminal pro-B natriuretic peptide levels (NT-proBNP) at 24 weeks.

Previously not much was known about Sacubitril-Valsartan for NYHA IV patients as PARADIGM-HF included <1% of participants NYHA class IV HF. Thus LIFE trial was designed to evaluate the benefits of Sacubitril-Valsartan over Valsartan in 335 randomized patients of NYHA class IV HF with reduced ejection fraction (HFrEF) 35% or less for 24 weeks.

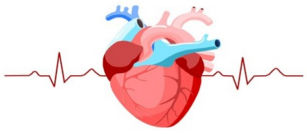
(LIFE TRIAL : LCZ696 in Advanced Heart Failure)

The findings of the trial astonished the researchers as neither of the groups achieved primary endpoint for change in NT-proBNP level from baseline, measured as area under the curve through 24 weeks. Thus, Sacubitril-Valsartan was not found to be superior to Valsartan with respect to lowering NT-proBNP level.

A nonsignificant difference between the groups was observed in terms of secondary and tertiary endpoints which included clinical outcomes, safety and tolerability. However, the rate of hyperkalemia was higher in the Sacubitril/Valsartan group (17% vs. 9%; P = .035).

The findings of the LIFE trial were consistent with past observations that as HF advances, chronic excessive activation of RAAS [renin-angiotensin-aldosterone system] blunts or overrides the effect of natriuretic peptides on the heart, vasculature and kidneys.

"ARNI is not superior to Valsartan in NYHA class IV HFrEF".



New Approach to Heart Failure Treatment Targets Myocardial Fibrosis

Pirfenidone, an anti-fibrotic medication was evaluated in the treatment of HFpEF.

Currently Pirfenidone is approved for treating adults with idiopathic lung fibrosis. Preclinical studies suggest Pirfenidone can reduce both scar tissue formation and reduce existing scarring in the heart.

A major unmet need in cardiovascular medicine is HF with preserved ejection fraction which accounts for up to half of all cases of HF linked to high morbidity and mortality. While multiple factors are involved in HF, scarring of the heart muscle and extracellular matrix is thought to be an important contributing factor for HFpEF.

The study examined 94 patients who received either Pirfenidone or placebo with HF ejection fraction of 45% or elevated natriuretic peptide levels.

"In future, Pirfenidone may have a place in HF which Targets Myocardial Fibrosis".

To amaze, Pirfenidone was seen to reduce **cardiac extracellular volume**, a marker of myocardial fibrosis with the mean between-group difference of 1.21% at 52 weeks. Fluid retention, measured using natriuretic peptides, improved in patients who took Pirfenidone. These findings suggest that Pirfenidone might have a clinical role in patients with HFpEF, but further trials are required to determine its clinical effectiveness and safety .

For any scientific queries on the above topic

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