The Scientific Times

Year 2020 ● Vol. 10

ESC Congress 2020 Highlights

ESC Congress

The ESC Congress is the annual congress of the European Society of Cardiology, the largest medical congress in Europe.

This year ESC Congress, the world's largest cardiology event, moves 100% online for the first time in its 70-year history, to create ESC Congress 2020, *Challenging Times, Infinite Possibilities.*

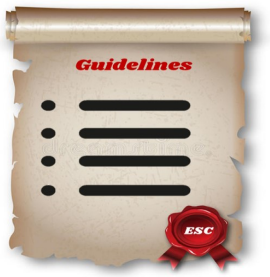
This year it was held virtually from *29 Aug to 1 Sep 2020.*

Inside this issue:

ESC 2020 Clinical Practice Guidelines

Four new ESC Clinical Practice Guidelines are being unveiled at ESC Congress 2020. The ESC updated its guidelines for

- *Atrial Fibrillation (AF)*
- *Non-ST-segment acute coronary syndrome (NSTE-ACS)*
- *Sports cardiology*
- *Congenital heart disease*



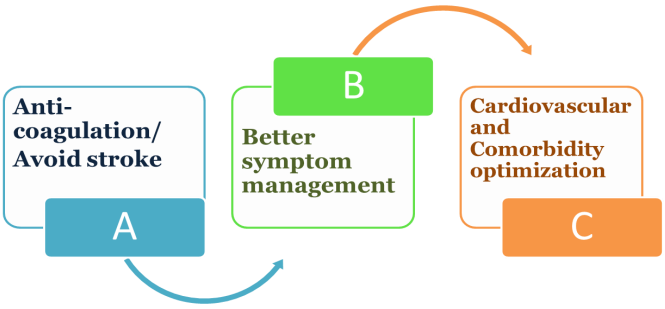
2020 ESC Guidelines for Atrial Fibrillation

The first new recommendation concerns ***diagnosis***:

A standard 12-lead ECG recording or a single-lead ECG tracing of ≥30 sec is required to establish the diagnosis of AF.

After diagnosis, to facilitate optimal management of AF, ***structured characterization*** of AF should be considered in all patients.

Guidelines recommend the use of the Atrial fibrillation Better Care (**ABC**) holistic pathway



The ABC pathway streamlines integrated care of AF patients across all healthcare levels and among different specialties, with the goal to further improve the structured management of AF patients, promote patient values and improve patient outcomes.

A new recommendation relates to optimizing shared decision-making about AF treatment options and ensuring that patient values need to be taken into account.

2020 ESC Guidelines for NSTE-ACS

For diagnosis with rapid *'rule -in'* and *'rule-out'* algorithms, it is now recommended to use

- **ESC 0h/ 1h algorithm** (best option, draw blood at 0 h and 1 h) **or**
- **ESC 0 h/ 2 h algorithm** (second-best option, draw blood at 0 h and 2 h) if a high-sensitivity cardiac troponin (hs-cTn) test with a validated algorithm is available.

Invasive coronary angiography is best option in patients with very high clinical likelihood of unstable angina.

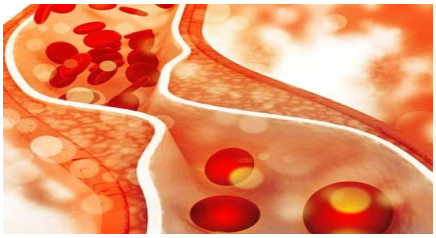
Stress testing with imaging or **coronary computed tomography angiography** (CCTA) is best option in patients with low-to-modest clinical risk.

Guidelines recommend an early routine invasive approach *within 24 h* for any of the following high-risk criteria:

- non-ST-segment elevation myocardial infarction (NSTEMI) based on hs-cTn measurements
- GRACE risk score >140
- dynamic or presumably new contiguous ST/T-segment changes suggesting ongoing ischemia or transient ST-segment elevation.

Pharmacological treatment

- Routine P2Y12 inhibitor not recommended for pre-treatment in NSTE-ACS patients whose coronary anatomy is unknown and an early invasive management is planned, given the lack of established benefit, although it may be considered in selected cases and according to bleeding risk.
- Post-treatment, dual antiplatelet therapy (DAPT) consisting of a potent ***P2Y12 inhibitor and aspirin is recommended for 12 months,*** irrespective of the stent type, unless there are contraindications.
- However, new scenarios have been implemented, such that DAPT duration can be shortened (<12 months), extended (>12 months) or modified by switching DAPT or de-escalation, based on the individual characteristics of the patients and drug availability.



Spit in a tube to diagnose heart attack

Myocardial infarction (MI) need urgent diagnosis. There is a great need for a simple and rapid ***troponin test*** for patients with chest pain in the pre-hospital setting .

The innovative technique requires patients to spit into a tube and provides results in ***10 minutes***, compared to at least one hour for the standard troponin blood test.

The study presented at ESC 2020 evaluated if cardiac troponin (cTnI) could be detected in the saliva of patients with heart muscle injury.

The small feasibility study included 41 patients and 66 control participants who had a saliva test for cTnI developed by Salignostics (Israel).

Test results could be obtained within 10 minutes.

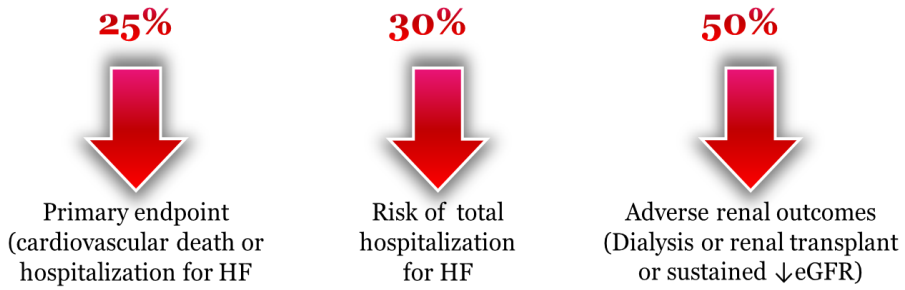
However, further research is needed in a larger sample to determine how long troponin stays in the saliva after MI, and how many patients would erroneously be diagnosed or would be missed.

Anti-diabetic Agents: Beyond Diabetes

EMPEROR-Reduced trial

The ***EMPEROR-Reduced trial*** evaluated the effects of ***Empagliflozin*** 10 mg once daily vs. placebo in 3,730 patients with heart failure and a reduced ejection fraction, HFrEF (left ventricular ejection fraction, LVEF ≤40%), with or without diabetes, who were already receiving all appropriate treatments for HF.

During a median follow-up of 16 months, there was a significant reduction in following parameters in Empagliflozin group vs placebo



Empagliflozin reduces the risk of cardiovascular (CV) death or hospitalization for HF in patients with HFrEF.

Regarding safety, uncomplicated genitourinary tract infections were more common in the Empagliflozin group (1.3% vs. 0.4%), but the frequency of hypotension, volume depletion and hypoglycemia were similar

DAPA-CKD trial

The Dapagliflozin And Prevention of Adverse outcomes in CKD (DAPA-CKD) trial aimed to test the hypothesis that ***Dapagliflozin*** could reduce the risk of renal and cardiovascular events in patients with CKD (with or without type 2 diabetes).

This international trial enrolled 4,304 patients with eGFR 25–75 mL/min/1.73 m^2 and urinary albumin-to-creatinine ratio 200–5,000 mg/g who were already receiving a stable dose of an ACE inhibitor or an ARB.

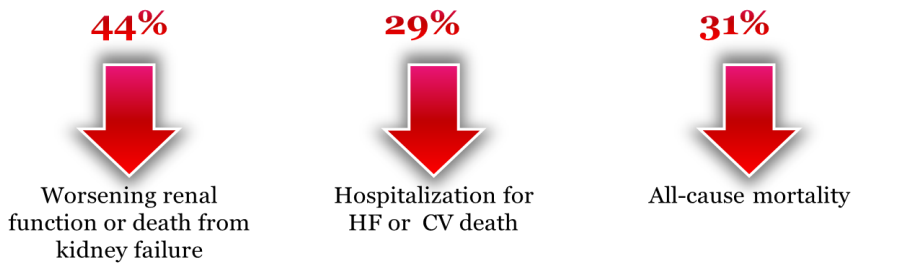
Patients were randomized to Dapagliflozin 10 mg or placebo once daily on top of background therapy.

The primary endpoint was worsening kidney function (≥50% sustained decline in eGFR or onset of end-stage kidney disease) or death due to kidney disease or CV disease.

During a median follow-up of 2.4 years, Dapagliflozin significantly reduced the primary endpoint by **39%** as compared to placebo.

DAPA-CKD trial provides important insights into the benefits of SGLT2 inhibitors in patients across multiple CKD stages both with and without diabetes.

Dapagliflozin vs. placebo significantly reduced the secondary endpoints



Heart failure, Hypertension Headlines

PARALLAX trial : Mixed results for Sacubitril/valsartan in HFpEF

Yet another study has missed a chance to show that patients with heart failure (HF) with preserved ejection fraction (HFpEF) can be benefitted with Sacubitril/ Valsartan, compared to other renin-angiotensin-aldosterone system (RAAS) inhibitors.

HFpEF affects approximately half of patients with HF.

There is currently no approved therapy to reduce morbidity and mortality in HFpEF patients. Treatment recommendations mainly focus on symptom relief with diuretics and treating comorbidities, typically with the RAAS inhibitors.

PARALLAX tested the effects of Sacubitril/Valsartan vs optimal individualized background therapy, which could be an ACE inhibitor Enalapril, an ARB valsartan, or placebo.

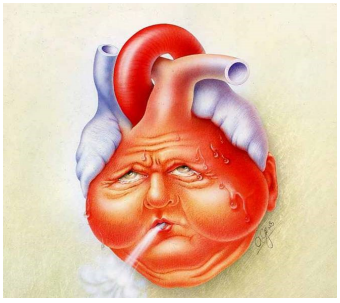
The co-primary endpoints were chosen to assess HF severity and functional capacity:

- change from baseline to 12 weeks in plasma N-terminal pro B-type natriuretic peptide (NT-proBNP)
- change in six-minute walk distance (6MWD) from baseline to 24 weeks.

A total of 2,572 HFpEF patients with mean LVEF 56%were included.

The trial ***met the first primary endpoint:*** after 12 weeks, patients on Sacubitril/Valsartan showed a significant **16.4%** greater reduction in NT-proBNP than patients treated with optimal individualized medical therapy ($p<0.0001$).

The trial ***did not meet the second primary endpoint***: at week 24, 6MWD had improved in both groups compared to baseline without significant difference.



Blood pressure-lowering: more beneficial than previously thought

Despite the well--known benefits of BP--lowering treatment, controversy remained regarding its differential effects in those with or without a prior diagnosis of CVD and also in individuals with BP below the common threshold of hypertension diagnosis.

In the Blood Pressure Lowering Treatment Trialists' Collaboration an individual participant-level data meta-analysis, involving 48 randomised clinical trials and 348,854 participants, was evaluated to investigate the effects of BP-lowering treatment on the risk of fatal or non-fatal major CVD events and death in patients with and without CVD at baseline overall and by baseline levels of BP (systolic BP categories <120, 120–129, 130–139, 140–149, 150–159, 160–169 and ≥170 mmHg).

Over an average 4 years of follow-up, *each 5 mmHg reduction in systolic BP lowered the relative risk of major CV events by about 10%.*

BP medication should be viewed as an effective tool for reducing CV risk when an individual's probability of having a MI or stroke is elevated and not only on current BP levels.

COVID CORNER

BRACE CORONA trial: ACEi & ARBs can safely be continued in COVID-19

There is conflicting observational evidence about the potential clinical impact of ACE inhibitors and ARBs on patients with COVID-19.

Select preclinical investigations have raised concerns about their safety in patients with COVID-19.

Preliminary data hypothesized that RAAS inhibitors could benefit patients with COVID-19 by decreasing acute lung damage and preventing angiotensin-II-mediated pulmonary inflammation. However, definitive evidence were lacking.

The BRACE CORONA is the first randomized trial to address this issue. From 29 sites in Brazil, 659 hospitalized patients with COVID-19 were enrolled who were all chronically using an ACEi or ARB.

Patients were randomized to two groups

- ***stopping the ACEi/ARB for 30 days*** **or**
- ***continuing the ACEi/ARB***

Results were similar between the groups for the average number of days alive and out of hospital: 21.9 days for patients who stopped ACEis/ARBs and 22.9 days for those who continued these medications.

A similar 30-day mortality rate was seen for patients who continued vs. who suspended the ACEis/ARBs (2.8% vs. 2.7%, respectively).

Because these data indicate that there is no clinical benefit from routinely interrupting these medications in hospitalized patients with mild to moderate COVID-19, ***they should generally be continued for those with an indication.***

COVID-19 & ESC Congress 2020: Key Highlights

- Study showed that ***women had 37% lower risk*** of outcomes like in-hospital death or transfer to intensive care unit (ICU) than men. Clinician should assess disease patterns separately by sex.
- The risk of venous thromboembolism was significantly lower in ***18.6%*** of patients who received **parenteral anticoagulants**, vs. no anticoagulation.
- **RECOVERY trial** demonstrated a clear benefit for ***Dexamethasone***, **shown to reduce mortality** in patients requiring oxygen or ventilation.
- First stage of the Adaptive COVID-19 Treatment Trial (ACTT-1), showed **Remdesivir** can reduce the time to recovery of hospitalized patients, but no mortality benefits.

For any scientific queries on above topic

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