

For you and your patients: essential information from ESC Congress 2021

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From 27 to 30 August 2021, the annual meeting of the European Society of Cardiology took place virtually. As always, there was an overwhelming number of scientific contributions which provoked great interest from the medical community. However, which of these many contributions are of importance to the everyday life of our patients? The following summary reviews some of the presentations which may change the life of patients with cardiovascular disease or have an impact on primary prevention.

Preventive Cardiology

Stroke

Heart Failure

Covid-19

COVID-19 is not only a lung disease but a cardiovascular disease as well. In a worldwide registry, 17% of patients hospitalised for COVID-19 died within the first month. There were no major breakthroughs in terms of new forms of therapy, however an older drug colchicine demonstrated a trend towards a reduced need to be ventilated as well as lower mortality in patients admitted with COVID-19 and severe acute respiratory syndrome (SARS). In patients with COVID-19, there is a need for anticoagulation during the hospital stay. But there is no consensus on the role of extended anticoagulation after discharge. This was investigated in the MICHELLE study, which randomised high-risk patients to placebo or low-dose rivaroxaban (10 mg daily). The primary endpoint of venous

thromboembolism was significantly reduced from 9.4% to 3.1%. Therefore, high-risk patients should receive anticoagulants after hospitalisation for COVID-19 for one month with rivaroxaban.

In another study, the IAMI trial, patients hospitalised for an acute myocardial infarction (AMI) were randomised to receive vaccination for influenza before discharge. Compared to the control, the primary endpoint of any death, another myocardial infarction or stent thrombosis was significantly reduced within one year. Therefore, influenza vaccination should be considered as a part of in-hospital treatment after myocardial infarction.

Heart failure

There is good news for patients with a "weak heart" (heart failure, left ventricular ejection fraction [LV-EF] < 40%): two drugs from the group of sodium-glucose cotransporter-2 (SGLT-2) inhibitors are now recommended at the highest level (I A): Dapagliflozin and empagliflozin, each with a daily dose of 10 mg. Their positive effect is seen primarily in the reduction of hospital admissions for heart failure and reduction of mortality.

"The fantastic 4"

The I A recommendation was not only pronounced for these drugs, but also for other groups such as beta blockers; mineralocorticoid receptor antagonists (MRAs); eplerenone and angiotensin-converting enzyme (ACE)-inhibitors like ramipril; or angiotensin receptor-neprilysin inhibitors (ARNI) like entresto. Another innovation is that these "fantastic 4" should be administered quickly and, if possible, at similar times, with lower initial doses. Therefore, the previously recommended stepwise approach is now rescinded. This makes life for patients and physicians much easier. "Water tablets" (diuretics) are still recommended but only for relevant fluid overload. If those drugs are not sufficient, another new drug (vericiguat) is recommended - but at a lower level of evidence (IIb B).

How can a strong heart be a weak heart at the same time?

It may be confusing for many patients that heart failure can co-exist with a normal LV-EF (see above). But indeed, a heart with normal LV-EF can also lead to symptoms of heart failure due to an abnormal relaxation phase ("diastolic heart failure"). This "heart failure with preserved ejection fraction" is also linked to a worse prognosis. Until now, no medication has scientifically proven a positive effect for this disease. With the results of the EMPEROR-Reduced, EMPEROR-Pooled trial were presented at the conference, it was demonstrated in approximately 6,000 patients that empagliflozin (see above) was also successful in this group of patients. This was primarily due to a reduction of hospital admissions for heart failure. Now, for the first time there is a scientifically proven medication to treat patients having "heart failure with preserved ejection fraction".

Stroke

Now everybody must wear a "heart wristwatch"?

As is generally known, a certain rhythm disturbance called "atrial fibrillation" is the most frequent cause for a stroke. This can be prevented if atrial fibrillation - which is often asymptomatic – is detected and treated early enough with specific blood thinners (anticoagulants) to prevent a stroke. Many patients, however, do not even know that they suffer from atrial fibrillation and their stroke comes out of the blue - despite the fact that it could have been prevented. A modern, discreet, and reliable method to detect atrial fibrillation - even in asymptomatic individuals - is to wear a special wristwatch which can record an ECG of good quality. The presented LOOP study investigated this concept in over 6,000 patients. Atrial fibrillation was detected in 32% of patients using this dedicated wristwatch, but only in 12% of the control group. Further studies must clarify the threshold at which the load of atrial fibrillation on patients must be anticoagulated.

A narrowed carotid artery: stent or surgery?

A high degree of carotid artery narrowing (stenosis) could be another cause for stroke. The question whether to cut (surgery) or not to cut (stent) has been investigated in many previous studies. Many guidelines prefer surgery. The ACST-2 study adds further knowledge to this important clinical decision: over 3,600 patients with asymptomatic carotid stenoses were enrolled. After five years the rate of severe strokes was identical (2.5%) in both groups. Strokes, although less severe, were more frequent with stenting (2.7%) than with surgery (1.9%).

Primary prevention:

There are numerous very well-known risk factors for a heart attack, like smoking, high blood pressure, diabetes, and high cholesterol levels. Probably, one of the most often performed imaging methods in this context is the ultrasound of the carotid arteries. The direct relationship or implication from the throat to the heart, however, is more than problematic. The new prevention guidelines presented at ESC Congress 2021 only recommend ultrasound of the carotid artery as an alternative if the calcium score of the coronary arteries (with the heart CT) is unavailable or if it is not feasible. Since the heart CT is available in most of Europe, the coronary calcium score should be the preferred risk marker to identify those patients at risk for a heart attack. The X-ray radiation exposure with this test is rather low (1 mSv).

Can "healthy salt" prolong your life?

Current guidelines recommend a daily intake of a maximum of 5 grams of common salt - sodium chloride (NaCl). However, there are some hints that a special mixture of NaCl with potassium chloride (KCl) may reduce strokes. This hypothesis was investigated in the Salt Substitute and Stroke Study, in which over 20,000 individuals were randomised to a mixture of 70% NaCl and 30% KCl or to regular 100% NaCl. After six months, there was a significant reduction not only of strokes, but also of deaths in the "healthy salt group". The blood potassium levels were not affected. Therefore, a general recommendation was issued worldwide to replace regular kitchen salt with this modified "healthy salt" to prevent strokes and prolong life.

Conclusion

The scientific progress presented at ESC Congress 2021 is not only important for physicians and healthcare providers - but also for the daily life of their patients. Therefore, patients should be directly informed in language that it is easy for them to understand about the innovations and clinical research that might improve their everyday life. This short paper is dedicated to this concern.

Notes to editor

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