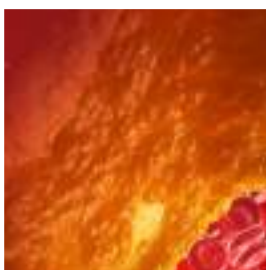


The 2020 Digital Learning Journey on Hypertension

CONGRESS REPORT

European Society of Cardiology Congress 2020

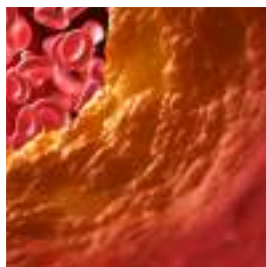
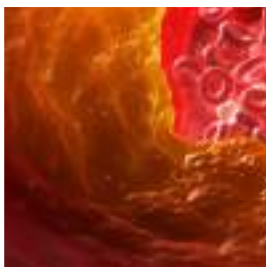


ESC Congress 2020

The Digital Experience

29 August - 01 September

A record-breaking event



BIOGRAPHY



Guido Grassi

Guido Grassi is Full Professor of Internal Medicine at the Clinica Medica of the University of Milano-Bicocca, Director of the Clinica Medica Institute at Saint Gerardo Hospital-Monza/Milano, Italy, Director of the Post-graduate School of Internal Medicine and of the PhD course in Public Health at the University of Milan-Bicocca. He has been Vice-chairman (2002–2004) and then Chairman (2004–2006) of the working group looking at hypertension and the heart for the European Society of Cardiology (ESC). He has been Treasurer and then Secretary of the Italian Society of Hypertension (2004–2007). In 2006–2007 he was a member of the Task Force of the European Society of Hypertension (ESH)/ESC for the 2007 Guidelines on Hypertension. In 2007, he was appointed Wright Lecturer at the annual meeting of the High Blood Pressure Council of Australia. Professor Grassi has served as a member of the Scientific Council of the International Society of Hypertension from 2008–2012 and 2012–2016, and as a member of the Scientific Council of the ESH from 2013–2016. In 2009, he received the Bjorn Folkow Award and Lecture from the ESH.

His research areas include the pathophysiology, clinical pharmacology and treatment of hypertension, obesity and metabolic syndrome, cardiac arrhythmias and heart failure. He has published more than 600 original papers and reviews in major scientific international journals (H index: 86). He has served as Vice President of the Italian Society of Hypertension from 2017–2019 and is incoming President for 2019–2021. In 2018, he was appointed Expert Reviewer of the 2018 ESC/ESH Guidelines document on hypertension by the ESC/ESH, as well as receiving the Paul Korner Award from the International Society of Hypertension.

CONGRESS REPORT

This year's annual meeting of the European Society of Cardiology (ESC) was held digitally due to the COVID-19 pandemic limitations. Much time and space, in the format of free oral communications, e-posters, lectures, debates and symposia, was devoted to clinical and experimental aspects of arterial hypertension.

Before focusing on some of the most relevant presentations in the field of hypertension, it is worth mentioning that during the conference a number of "hot topics" were discussed in depth. One such topic was the case for the relevance of "precision medicine" – that is - an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle for each person. In the discussion, the 'pro' position was discussed by Professor Delles (Glasgow, UK) counterbalanced by the 'con' opinion by Professor Schiffrin (Montreal, Canada). The debate, although not generating a clear winner, highlighted the current position of the approach with its intrinsic strengths and limitations.

Another theme extensively discussed during the ESC meeting was the "new season of device-based hypertension", with presentations by Professors Mafhoud and Bohm (Saarland, Homburg, Germany) and Pathak (Monaco, France). All speakers highlighted the importance of the results of the most recent trials on renal denervation (in particular the SPYRAL HTN-OFF MED and SPYRAL HTN-ON MED^{1,2}), which unequivocally documents the blood pressure lowering effects of the intervention in high blood pressure states uncontrolled by antihypertensive drugs. Thus, during the last few years, uncontrolled rather than resistant hypertension has become the main target of the renal denervation procedure.

A further "hot topic" was how to integrate blood pressure information derived from ambulatory monitoring into the clinical decision on when and how antihypertensive drug treatment needs to be initiated. Different presentations discussed this issue in depth, with some also emphasizing the relevance of elevated clinic and ambulatory heart rate values not only for determining the cardiovascular risk profile of a given patient with hypertension, but also for guiding the pharmacologic intervention.

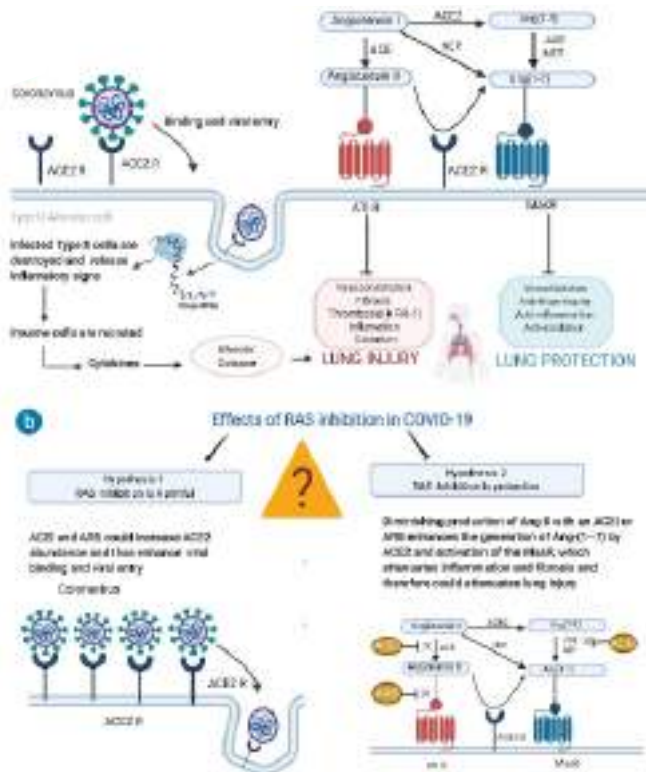
As mentioned above, this report will focus on five of the most intriguing presentations on hypertension during the ESC meeting. The first presentation, by Professor Lopes (San Paolo, Brazil) provided the preliminary results of "Angiotensin receptor blockers (ARBs) and angiotensin converting enzyme (ACE) inhibitors and adverse outcome in patients with COVID-19



(BRACE CORONA)” study, which started in April 2020 and will complete by December 2020 and involves 29 Brazilian hospitals. This study, which enrolled ~700 heart failure patients affected by COVID-19, evaluated the impact of suspending the use of ACE inhibitors and ARBs on the duration of hospital stay and on the mortality of patients with SARS-CoV-2 infection. Data presented at ESC represent an advanced interim report of the study. Compared with patients who were withdrawn from drugs acting on the renin-angiotensin system, those maintained on drug treatment displayed a similar or sometimes a higher number of days alive and a shorter hospital stay (primary study endpoint: 22.9 vs 21.9 days), with a greater proportion of patients alive and out of hospital by the end of 30 days (95% vs 91.8%). The 30-day mortality rate was similar whether patients continued or suspended the drugs. Based on these results, there is no clinical benefit in suspending ACE-inhibitors or ARBs in heart failure patients with COVID-19. Although still preliminary, the results of this first prospective study show that COVID-19 does not weaken the beneficial effects of the drugs acting on the renin-angiotensin system in heart failure patients. Several aspects of the study deserve to be clarified, however, such as possible differences in the results when the clinical severity of the disease or its etiology is considered. In addition, the study has limitations, such as the fact that there are possible differences in admission criteria between the different hospitals, or the lack of information on ‘on treatment’ blood pressure values. Despite these limitations, the study results appear solid with conclusions similar to the ones achieved by a retrospective study recently published in the New England Journal of Medicine.³ This study of more than 6000 patients from the Italian Lombardy region registry showed that there was no evidence that ACE inhibitors or ARBs affected the clinical outcome of COVID-19 infection.³ Similar conclusions were achieved by the analysis of another study in more than 1500 hypertensive patients hospitalized in different Italian clinical centers for COVID-19 that showed that the presence of a hypertensive state and/or antihypertensive treatment does not interfere with the outcome of the disease, unlike the presence of renal failure, diabetes mellitus or obesity.⁴



RENIN-ANGIOTENSIN SYSTEM AND COVID-19



Reproduced from the Elsevier COVID-19 resource centre from the published paper: Lopes RD, Macedo AVS, de Barros E Silva PGM, et al. Continuing versus suspending angiotensin-converting enzyme inhibitors and angiotensin receptor blockers: Impact on adverse outcomes in hospitalized patients with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) - The BRACE CORONA Trial. *Am Heart J.* 2020;226:49-59. doi:10.1016/j.ahj.2020.05.002

Two highly attended presentations held during the conference provided new analysis of the data collected in the Blood Pressure Lowering Treatments Trialists Collaboration (BPLTTC) which was initiated in 1995 with the analysis of data collected in 15 hypertensive clinical trials and over 70,000 patients. The new phase of analysis now includes more than 350,000 patients from 51 trials. The first presentation, by Dr Copland (Oxford, England), re-examined new data from 31 studies (260,000 patients) included in the BPLTTC project. The background for this study is the association between use of antihypertensive drugs and cancer which has generated great debate in recent years because of the conflicting results from published studies. These range from adverse to beneficial effects of various antihypertensive classes. Investigators of all trials were asked for information on which participants developed cancer. Five antihypertensive drug classes were investigated separately: ACE inhibitors, ARBs, beta-blockers, calcium channel blockers (CCBs), and diuretics.



The investigators estimated the effect of each drug class on the risk of developing any type of cancer or of dying from neoplastic disease. They also examined whether there were any differences according to age, gender, body size, smoking status and previous antihypertensive medication use before taking part in the trial. During an average follow-up of four years, there were around 15,000 new diagnoses of cancer. According to the study results, there was no clear-cut effect of any individual drug class on overall cancer risk.

In a hot line session followed by a very large audience, the results of the second BPLTTC analysis was presented by Dr Rahimi (Oxford, England). By performing a meta-analysis of data from about 350,000 patients enrolled in 48 published trials the authors evaluated the impact in terms of reduction in cardiovascular events of antihypertensive treatment initiated at different levels of baseline blood pressure levels (between 170 and 120 mm Hg for systolic blood pressure). BPLTTC results provide evidence of the absolute benefits in terms of cardiovascular event reduction of systolic blood pressure not only when the blood pressure values were close to 170 mm Hg but also when they were around 120 mm Hg. This was the case for risk of stroke, ischemic heart disease, congestive heart failure and death from cardiovascular disease. These data, therefore, open new perspectives to the initiation of antihypertensive drugs below the typical blood pressure threshold values for starting pharmacological treatment.

Two further studies presented during the meeting deserve to be briefly mentioned. The first one refers to the research project presented by Dr Ioakemeidis (Athens, Greece), evaluating the impact of different high blood pressure levels and various antihypertensive medications on sexual dysfunction (penile vascular alterations evaluated by doppler) in male hypertensive patients. Results provide evidence on a progressive sexual alteration from normal to high normal and more severe hypertension, which were markedly attenuated in the group treated with antihypertensive drugs. Finally, Dr Silveira from Porto Alegre (Brazil) provided evidence that motivational interviewing (an approach known to produce potential favorable effects on patient's motivation to change personal behavior) might reduce blood pressure, improve self-care and drug adherence in hypertensive patients.





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