EuroIntervention. 2023 Feb 15;EIJ-D-22-00723. doi: 10.4244/EIJ-D-22-00723. Online ahead of print.

Renal denervation in the management of hypertension in adults. A clinical consensus statement of the ESC Council on Hypertension and the European Association of Percutaneous Cardiovascular Interventions (EAPCI)

Emanuele Barbato, Michel Azizi, Roland E Schmieder, et al.

PMID: 36789560.

Abstract

Since the publication of the 2018 European Society of Cardiology/European Society of Hypertension (ESC/ESH) Guidelines for the Management of Arterial Hypertension, several high-quality studies, including randomised, sham-controlled trials on catheter-based renal denervation (RDN) were published, confirming both the blood pressure (BP)-lowering efficacy and safety of radiofrequency and ultrasound RDN in a broad range of patients with hypertension, including resistant hypertension. A clinical consensus document by the ESC Council on Hypertension and the European Association of Percutaneous Cardiovascular Interventions (EAPCI) on RDN in the management of hypertension was considered necessary to inform clinical practice. This expert group proposes that RDN is an adjunct treatment option in uncontrolled resistant hypertension, confirmed by ambulatory BP measurements, despite best efforts at lifestyle and pharmacological interventions. RDN may also be used in patients who are unable to tolerate antihypertensive medications in the long term. A shared decision-making process is a key feature and preferably includes a patient who is well informed on the benefits and limitations of the procedure. The decision-making process should take (i) the patient's global cardiovascular (CV) risk and/or (ii) the presence of hypertension-mediated organ damage or CV complications into account. Multidisciplinary hypertension teams involving hypertension experts and interventionalists evaluate the indication and facilitate the RDN procedure. Interventionalists require expertise in renal interventions and specific training in RDN procedures. Centres performing these procedures require the skills and resources to deal with potential complications. Future research is needed to address open questions and investigate the impact of BP-lowering with RDN on clinical outcomes and potential clinical indications beyond hypertension.

Clin Hypertens. 2023 Feb 15;29(1):11. doi: 10.1186/s40885-023-00234-9.

The 2022 focused update of the 2018 Korean Hypertension Society Guidelines for the management of hypertension

Hack-Lyoung Kim, Eun Mi Lee, Shin Young Ahn, et al.

PMID: 36788612

Abstract

Hypertension is the leading cause of death in human being, which shows high prevalence and associated complications that increase the mortality and morbidity. Controlling blood pressure (BP) is very important because it is well known that lowering high BP effectively improves patients' prognosis. This review aims to provide a focused update of the 2018 Korean Hypertension Society Guidelines for the management of hypertension. The importance of ambulatory BP and home BP monitoring was further emphasized not only for the diagnosis but also for treatment target. By adopting corresponding BPs, the updated guideline recommended out-of-office BP targets for both standard and intensive treatment. Based on the consensus on corresponding BPs and Systolic Blood Pressure Intervention Trial (SPRINT) revisit, the updated guidelines recommended target BP in high-risk patients below 130/80 mmHg and it applies to hypertensive patients with three or more additional cardiovascular risk factors, one or more risk factors with diabetes, or hypertensive patients with subclinical organ damages, coronary or vascular diseases, heart failure, chronic kidney disease with proteinuria, and cerebral lacunar infarction. Cerebral infarction and chronic kidney disease are also high-risk factors for cardiovascular disease. However, due to lack of evidence, the target BP was generally determined at < 140/90 mmHg in patients with those conditions as well as in the elderly. Updated contents regarding the management of hypertension in special situations are also discussed.

Keywords: Blood pressure; Guideline; Hypertension; Korea.

Diabetes Metab Syndr Obes. 2023 Feb 8;16:345-363.
doi: 10.2147/DMSO.S396011. eCollection 2023.

Association Between Hypertension and New-Onset Non-Alcoholic Fatty Liver Disease in Chinese Non-Obese People: A Longitudinal Cohort Study

Dezhi Yang, Jing Lan, Ji Cen, Yong Han, Haofei Hu

PMID: 36788988.

Abstract

Background: Quantification of the relationship between hypertension and non-alcoholic fatty liver disease (NAFLD) risk is limited and controversial. This study aimed to investigate the relationship between hypertension and NAFLD in non-obese Chinese and to use different methods to demonstrate that hypertension is an independent risk factor for NAFLD.

Methods: On 16,153 nonobese individuals, a retrospective cohort study was conducted in China to examine the impact of hypertension on incident NAFLD. We compared five methods: multivariable Cox proportional-hazards regression, propensity score-matched (PSM) analysis, propensity score adjustment method (considering the propensity score as a covariate in a multivariable Cox proportional-hazard regression), and two propensity score-based weighted methods-The first one estimated the hypertension effect in the overall study population-inverse probability of treatment weights (IPTW), the other in the hypertensive population-standardized mortality ratio (SMR) weights. We also used a genetic matching (GenMatch) algorithm to match the participants for sensitive analysis.

Results: Between 2010 and 2014, 16,153 participants met our inclusion criteria, including 2427 (15.03%) with hypertension. A total of 2321 (14.37%) participants developed NAFLD during the median follow-up of 2.98 years. The crude hazard ratio (HR) between hypertension and incident NAFLD was 2.05 (95% confidence interval (CI): 1.87, 2.25). The adjusted HR depended on the different methods, ranging from 1.09 (95% CI: 0.77, 1.23) for the PSM method to 2.24 (95% CI: 2.05, 2.44) for the SMR weighted analysis. Hypertensive participants with high propensity scores had a higher risk of developing NAFLD in the future. Excluding participants with propensity scores <8% yielded comparable hazard ratios with a narrower range, from 1.04 to

1.80. After adjusting for the confounding variables, the relationship also existed in the GenMatch cohort as a sensitivity analysis (HR=1.06, 95% CI 1.01-1.13).

Conclusion: Hypertension is a significant cause of NAFLD in Chinese adults in non-obese Chinese adults, with the hazard ratio ranging from 1.09 to 2.24.

Keywords: hypertension; inverse probability of treatment weights; non-alcoholic fatty liver disease; propensity-score matching; standardized-mortality-ratio weights.

BMC Cardiovasc Disord. 2023 Feb 14;23(1):87. doi: 10.1186/s12872-023-03114-0.

The effect of combining therapeutic drug monitoring of antihypertensive drugs with personalised feedback on adherence and resistant hypertension: the (RHYME-RCT) trial protocol of a multi-centre randomised controlled trial

L E J Peeters, M H W Kappers, E Boersma, E K Massey, et al.

PMID: 36788491

Abstract

Background: Adherence to antihypertensive drugs (AHDs) is important for adequate blood pressure control. Not taking these drugs as prescribed is one of the main underlying causes for resistant hypertension (RH), which in turn leads to an increased risk of cardiovascular events, stroke and kidney damage. Therefore, correct identification of patients that are non-adherent to AHDs is crucial to improve clinical outcome. For this goal, therapeutic drug monitoring is the most reliable method. The primary objective of this trial is to investigate whether monitoring of drug concentrations with a dried blood spot (DBS) sampling method combined with personalised feedback leads to a decrease in prevalence of RH after 12 months due to an increase in adherence. Secondary objectives include the difference over time in the number of required AHDs as well as the defined daily dose (DDD). Lastly, the cost-utility of SoC versus the intervention in RH is determined.

Methods: This is a multi-centre single-blinded randomised controlled trial (RHYME-RCT). First, at an eligibility visit, DBS sampling, to monitor drug concentrations in blood, and a 24-h ambulatory blood pressure measurement (24-h ABPM) are performed simultaneously. Patients with a daytime systolic blood pressure (SBP) > 135 and/or diastolic blood pressure (DBP) > 85 mmHg are randomised to SoC or intervention + SoC. The intervention is performed by the treating physician and includes information on drug concentrations and a comprehensive personalised feedback conversation with the use of a communication tool. The follow-up period is one year with visits at 3, 6 and 12 months randomisation and includes 24-h ABPM and DBS sampling.

Discussion: This will be the first trial that focusses specifically on patients with RH without taking into account suspicion of non-adherence and it combines monitoring of AHD concentrations to identify non-adherence to AHDs with a comprehensive feedback to improve non-adherence. Furthermore, if this trial shows positive outcomes for the intervention it can be directly implemented in clinical practice, which would be a great improvement in the treatment of RH.

Trial registration: RHYME-RCT is registered in the Dutch Trial Register on 27/12/2017 (NTR6914) and can be found in the International Clinical Trials Registry Platform.

Keywords: Adherence; Antihypertensive drugs; Blood pressure; Hypertension; Intervention; Therapeutic drug monitoring.