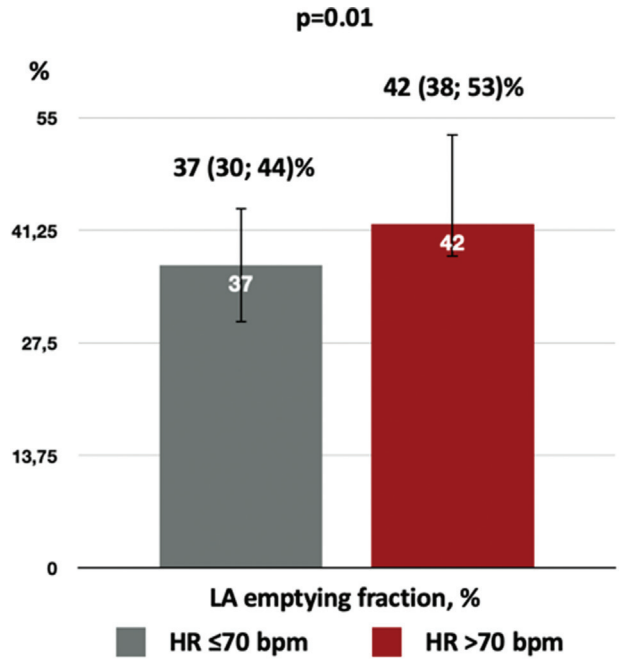

Conclusions: Beta-blockers treatment with strict HR reduction (=<70 bpm) significantly reduced LA function as compared to lenient target HR (>70 bpm). Although higher HR is a risk factor for hypertensive patients, its excess reduction with BBs could be harmful in this group.

THE CHANGE IN QUALITY OF LIFE IN DRUG-TREATED HYPERTENSIVE PATIENTS AFTER 10 YEARS OF ANTIHYPERTENSIVE TREATMENT

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Objective: To clarify the change in quality of life in Finnish drug-treated hypertensive patients after ten years of antihypertensive treatment.

Design and method: Earlier non-treated patients participated during the years 1999-2002 in a six-month study where their antihypertensive treatment was titrated either by using home or 24 hour ambulatory measurement. Thereafter they have been in the ordinary out-patient care,

The patients filled the SF-36 questionnaire before the start of antihypertensive therapy and after 10-13 years of use of antihypertensive therapy.

Results: SF-36 questionnaire was filled out by 44 patients (23 females and 21 males, aged 66.1 (6.1), 55-77 years) after 10.6 (2.9) (6-13) years of antihypertensive treatment. All of them used at least one antihypertensive agent.

The mean (SD) SF-36 questionnaire scores after about 10 years of antihypertensive treatment were (maximum 100): Physical functioning 78.5 (19.9), role-physical 72.6 (34.0), bodily pain 68.1 (22.2), general health 64.5 (16.2), vitality 68.6 (15.8), social functioning 90.1 (19.0), role-emotional 76.0 (35.9), mental health 84.5 (14.4) and general health 3.2 (0.7). The mean of all the scores was 75.4 (17.8).

During the titration period (in the years 1999-2002) physical functioning decreased nearly significantly from 87.1 (12.4) to 83.3 (15.7), p=0.053. Other parameters did not change significantly.

During 10 years of antihypertensive treatment physical functioning decreased significantly from 84.5 to 79.8 (p=0.039). Instead, vitality (63.4 (22.2) to 69.6 (14.5), p=0.032), social functioning (85.8 (21.1) to 91.7 (14.9), p=0.028) and mental health (81.7 (14.4) to 85.7 (12.4), p=0.030) increased significantly. Other parameters did not change significantly.

Conclusions: According to our results physical functioning decreased and vitality, social functioning and mental health increased during about 10 years of antihypertensive treatment. The decrease in physical functioning is probably explained by aging, because physical function decreases in normal population about 0.5/lifeyear. Perhaps, good antihypertensive treatment explains the increase in those three mental parameters. All three parameters and also physical functioning were better than in the normal population. Thus, it seems that according to the SF 36 questionnaire quality of life in Finnish treated hypertensive patients is quite good and do not decrease significantly during aging.

COMPARATIVE EFFICACY OF AMLODIPINE AND LERCANIDIPINE IN THE PREVENTION OF MAJOR ADVERSE CARDIOVASCULAR EVENTS IN HYPERTENSIVE PATIENTS

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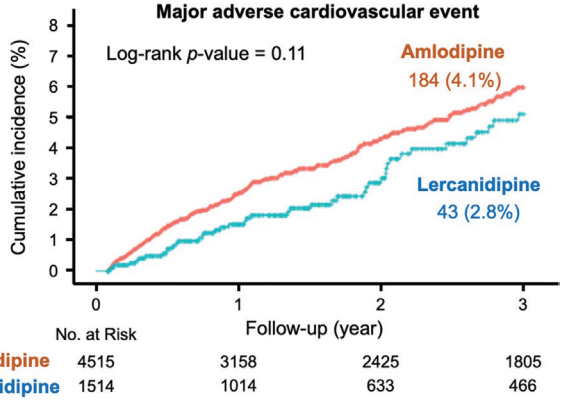
Objective: Amlodipine is the most widely prescribed calcium channel blocker (CCB) for hypertension. Lercanidipine, a newer CCB, is reported to exhibit fewer side effects, such as peripheral edema, and is believed to have beneficial effects on myocardial ischemia and congestive heart failure. However, its impact on major adverse cardiovascular events (MACE) has not been comprehensively explored. This study aims to elucidate the clinical efficacy of Lercanidipine in the prevention of major adverse cardiovascular events to that of Amlodipine.

Design and method: A retrospective cohort study was conducted by analyzing electronic health records from three tertiary hospitals in Korea. We identified patients who were administered Lercanidipine (n = 2,182) or Amlodipine (n = 45,458) for a minimum of 30 days from January 1, 2017, to November 30, 2021. The incidence of MACE, including cardiovascular death, myocardial infarction, stroke, heart failure hospitalization, and coronary revascularization, was assessed over a three-year follow-up period. A total of 4,680 Amlodipine and 1,570 Lercanidipine patients were evaluated, with propensity score matching at a ratio of 1:3 after excluding those with end-stage renal disease.

Results: Patients in the Lercanidipine cohort had a higher prevalence of low socioeconomic status, diabetes, hyperlipidemia, and chronic kidney disease. The usage of more than three antihypertensive drugs was more common in this group. The cardiovascular risk estimated by SCORE2/SCORE2-OP was also higher in the Lercanidipine cohort. After the propensity score matching, the incidence of MACE was numerically lower in the Lercanidipine group (2.8%) compared to the Amlodipine group (4.1%), but the difference was not statistically significant (p = 0.11). No differences in blood pressure control were observed over the follow-up period.

Conclusions: In patients with higher cardiovascular risk profiles, Lercanidipine was preferred to Amlodipine. The study found that Lercanidipine had comparable efficacy to Amlodipine in preventing cardiovascular events.



DECLINING RATES OF FIXED-DOSE COMBINATION PILLS FOR HYPERTENSION IN GERMANY FROM 2016 TO 2023

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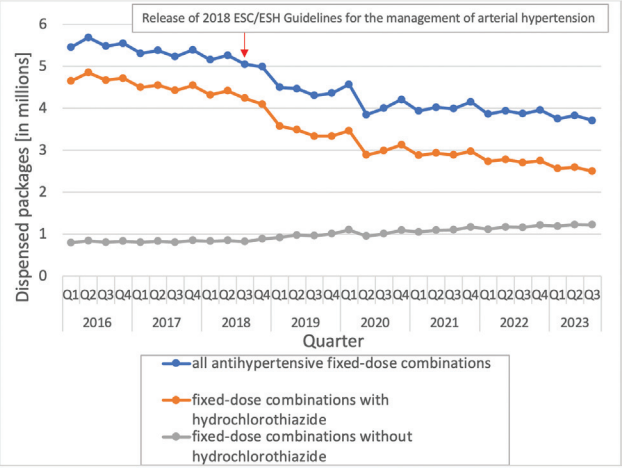
Objective: Current guidelines recommend the usage of fixed-dose combination (FDC) pills in primary and secondary prevention of cardiovascular diseases. Current data on the implementation of these recommendations in German clinical

practice are scarce. The objective was to assess the use of antihypertensive FDCs in Germany from 2016-2023.



Design and method: We analysed claims data from the German Institute for Drug Use Evaluation from January of 2016 to September of 2023, containing information on dispensed drugs in an outpatient care setting of approx. 87% of the German population (excluding private insurance) and evaluated the use of antihypertensive FDC pills according to time, age of the insured persons, and active substances contained in the FDC.

Results: The use of FDC pills decreased from 2016 to 2022 from 22.2 million packages to 15.6 million packages, while the absolute number of antihypertensives prescribed increased from 143.8 million packages to 155.9 million packages. Consequently, the proportion of FDC pills in all antihypertensives decreased from 15.4% in 2016 to 10.0% in 2022. The amount of hydrochlorothiazide (HCT) containing FDC pills decreased from 2016 to 2022 (from 18.9 million packages to 11.0 million packages), while the amount of FDC pills that do not contain HCT increased from 2016 to 2022 (from 3.3 million packages to 4.7 million packages). Use of FDC pills has been declining in all age groups. FDC pills are used infrequently in patients over 80 years of age.

Conclusions: Despite guideline recommendations, use of antihypertensive FDC pills in Germany is declining, showing continuing guideline inertia. The decrease is mainly driven by decreased prescriptions of HCT-containing FDC pills. Assumed higher medication cost for FDC compared to single pills and fear of non-melanoma skin cancer for HCT are potential reasons. Use of FDC pills should be advised and implemented in outpatient care in Germany.

RETROSPECTIVE, OBSERVATIONAL, LONGITUDINAL STUDY OF DRUG UTILIZATION FOR THE TREATMENT OF UNCOMPLICATED ESSENTIAL HYPERTENSION IN BULGARIA

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Objective: To evaluate drug utilization and assess rational drug use in the treatment of patients with uncomplicated essential hypertension in Bulgaria, using quantitative and qualitative measures at national level.

Design and method: Retrospective, observational, longitudinal study of data from the public registers of the National Health Insurance Fund for the period 2017-2021 using the WHO ATS/DDD methodology and descriptive statistical methods.

Results: The analyzed population included 129 312 patients with uncomplicated essential hypertension /I10/ - 11.09% of all hypertensive patients in Bulgaria. The average cost per year was 8 229 567.10 BGN (1 Euro=1.95583 BGN) - respectively the cost per patient per year was 63.64 BGN, the monthly cost was 5.30 BGN and the cost per day was 0.17 BGN. The amount of 8 229 567.10 BGN was divided into two groups - costs for mono-products (67.73%) and costs for combined products (32.27%).

The analysis of the actual therapeutic practice in Bulgaria showed that the most prescribed products for this indication were beta-blockers Nebivolol and Bisoprolol, calcium channel blocker Lercanidipine and centrally acting anti-adrenergic agents Moxonidine and Rilmenidine. Sartans were represent predominantly by Telmisartan. In all cross-sectional analyses, the significant use of Lercanidipine was very prominent.

Regarding the fixed-dose combinations, medicinal products, containing AT1-blocker and thiazide diuretic were preferred choice for treatment - the most prescribed combination was Valsartan with Hydrochlorothiazide (15.93% of the reimbursement costs for fixed-dose combinations).

Conclusions: Despite of the clear recommendation in the guidelines, monotherapy was still preferred treatment for uncomplicated essential hypertension / I10/ in Bulgaria, during the studied period /2017-2021/. We must persist with the continuous education of the GPs, in order to improve the therapy and control of the arterial hypertension in Bulgaria.

IMPROVEMENT OF COGNITIVE FUNCTION IN HEART FAILURE PATIENTS BY SGLT2 INHIBITORS—CLINICAL ADVANCES, MECHANISMS, AND FUTURE PERSPECTIVES

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Objective: SGLT2 inhibitors belong to a new category of oral antidiabetic medications that decrease blood glucose by obstructing glucose reabsorption in the proximal tubule (PCT), resulting in elevated urinary levels of sodium and glucose. The 2023 ESC guidelines for acute and chronic heart failure encourage the usage of SGLT2 inhibitors in patients with HFmrEF and HFpEF to lower the danger of hospitalization or cardiovascular mortality in heart failure patients. Cognitive decline is a significant issue for heart failure patients. This narrative review's objective is to examine the impact of SGLT2i on cognitive dysfunction associated with heart failure and foster further research, predominantly in the form of large-scale clinical trials.

Design and method: An exhaustive literature search was executed on PubMed to analyze the fundamental mechanisms of SHLT2 inhibitors on cognitive impairment in heart failure patients, related clinical evaluations, the consequences of cardiac dysfunction on cognitive function, and possible underlying mechanisms.

Results: The published literature substantiates the argument that cognitive impairment is provoked by cardiac dysfunction. Current research suggests that cognitive dysfunction in patients with heart failure results from inadequate cerebral perfusion, the Locus coeruleus noradrenergic system, chronic inflammation, mitochondrial dysfunction, and microRNA-1. Furthermore, numerous randomized controlled trials have confirmed that SGLT2 inhibitors, with or without diabetes mellitus, enhance cardio-renal outcomes in patients. SGLT2 proteins are present in the central nervous system (CNS). SGLT2 inhibitors reduce oxidative stress, inflammation, and endothelial cell proliferation, as well as improve brain mitochondrial function, synaptic plasticity, acetylcholinesterase activity, amyloid plaques, and modulation of the mTOR pathway. They also attenuate brain injury and cognitive decline. There are additional clinical studies that demonstrate the reduction in the risk of cerebrovascular events and dementia through SGLT2i treatment.

Conclusions: To summarize, all existing studies establish the direct and indirect neuroprotective effects of SGLT2i. Nevertheless, there is limited clinical research on using SGLT2i for the treatment of cognitive dysfunction related to heart failure. Further clinical experiments are required to determine the effectiveness of SGLT2i treatment in improving cognitive dysfunction associated with heart failure.

RATIONALE AND DESIGN OF PHASE 3 TRIAL FOR BAXDROSTAT, A NOVEL HIGHLY SELECTIVE ALDOSTERONE SYNTHETASE INHIBITOR

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