ABSTRACT

Title: Ageing of the population and selected aspects of the rationality of drug prescribing of statins in older age (II.)

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INTRODUCTION: In the geriatric population, cardiovascular diseases based on atherosclerosis rank first place in morbidity and mortality. A positive effect on cardiovascular morbidity can generally reduce overall morbidity, polymorbidity, polypharmacotherapy, and prolong the quality of life of older patients. Statins are often underprescribedin the treatment of ATS heart disease in older age or are underdosed in both primary and secondary prevention.
The main goals of the diploma thesis was to analyze the rationality of statin prescription in the Czech population of seniors, assessed in the EuroAgeism H2020 project in three different health care settings (acute, outpatient and community pharmacy settings of health care). The aim was to describe various aspects of rational / irrational statine therapy in patients older than 65 years (choice of drugs, drug combinations, dosing timing, indications according to the degree of CVS risk in seniors, and indications in the presence of some risk factors / risk complications of the statine therapy)

METHODOLOGY: Data were collected using a questionnaire method in the years 2018-2021 in the EUROAGEISM H2020 project in seniors aged 65 and over in three different care settings. In each environment, about 150 seniors were assessed. A total of 1602 seniors were included, of which 563 were outpatients,589 from acute care and 450 from community pharmacy practices. The seniors were asssessed prospectively, using the CGA (Comprehensive Geriatric Assessment) methods, which consisted of sections on sociodemographic characteristics, lifestyle and nutritional status of seniors, functional status, health status, and utilization of health servicespatient diagnoses, geriatric symptoms and syndromes, comprehensive medication data, and results of laboratory tests. The study was approved by the Ethics Committee of the Faculty of Pharmacy, Charles University, and included were all patients meeting the inclusion criteria(seniors without significant speech or hearing impairment, and with no severe cognitive impairment, except seniors in end-stage of disease and intensive care

patients). Patients who signed informed consent were included in the study. The data were analyzed in comparison with the recommendations for rational statin therapy in the ESC / EAS (angl European Society of Cardiology and the European Atherosclerosis Society) procedures and using the criteria given for statin therapy by the START 2015 criteria.

RESULTS: The mean age of seniors was 77,8 years +/- 7,6 SD and the median age was 77,7 years. The representation of women was 66,0 %. Polypharmacotherapy (use of 5-9 drugs) occurred in 43,1 % and 10+ drugs in 26,2 % seniors. Polymorbidity (1-4 diseases) was found in 36,7 % and 5-9 diseases in 49,5 % patients. 21,2 % of patients were at moderate cardiovascular risk and 8,0 % of them were treated with statins. 21,9 % were at high cardiovascular risk and 46,2 % of them were treated with statins. 52,1 % of patients were at very high cardiovascular risk and 41,7 % of them were treated with statins. A total of 510 statin users used mostly monotherapy (97,8 %), combination therapy was used minimally. The most frequently used statin in the overall group and in all types of care was atorvastatin (65,5 %), followed by rosuvastatin and simvastatin, exceptionally fluvastatin was prescribed (1,0 %). The combination of statins with other hypolipidemic agents (most commonly ezetimib and fibrates) was found in only a small percentage of cases (0,6 % and 0,7 %). The most commonly used were atorvastatin and simvastatin at a dose of 20 mg/day, with rosuvastatin 10 mg/day. 2,4 % of patients took statins in inappropriate timing. With increasing cardiovascular risk, the applied daily dose of a statin should also increase, which has not been demonstrated in our study. Indications of statins were uncommon in patients presenting statine therapy risks (eg. in patients at risk of myopathies, hepatopathies, renal and hepatic failure, hypothyroidism, dehydration and incontinence, etc.).

CONCLUSION: In this diploma thesis, it was found that patients in secondary prevention were not treated with sufficient doses of statins or even were not treated at all. Primary statin prevention has also been insufficiently indicated in patients where the use of these drugs has been desired. In some cases, inappropriate timing of statins occurred during the day, 1/3 of statine users showed non-adherence and statins were rarely used in patients with risks for statin complications. The rationality of statin therapy in old age requires higher attention, regular monitoring of efficacy, and the selection of effective as well as safe drug regimens.

KEY WORDS: rational pharmacotherapy, seniors, statins, cardiovascular risk, indications, dosage, undesirable complications

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