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STUDY OF THE INFLUENCE OF DIFFERENT TYPES OF STATINS IN THE TREATMENT OF ATHEROGENESIS

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ABSTRACT. The discovery of statins has led to significant progress in both primary and secondary prevention of coronary heart disease. Although the angiographic changes following statin therapy were modest, the clinical benefits associated with therapy were significant. Numerous clinical trials have correlated the reduction in blood cholesterol induced by these compounds by reducing the number of major coronary events as well as reducing overall mortality in coronary patients
KEYWORDS: statins, UV spectrum, heart disease, cholesterol

INTRODUCTION

Statins are the most effective drugs in the treatment of atherogenesis, but they are only one of a number of other lipid-lowering medications that act by various mechanisms: fibrates, bile acid-binding resins and the latest acquisition, ezetimibe, an absorption inhibitor intestinal cholesterol. (1-6).

The first commercially available statin, lovastatin, was introduced by the Merck Pharmaceutical Industry. (9) It was subsequently confirmed that statins effectively reduce LDL cholesterol. Japanese biochemist Akira Endo was awarded 30 years later with the prestigious Lasker Award for discovering an agent that blocks cholesterol synthesis (12-22).

The pharmaceutical industry continuously modifies statin molecules. After lovastatin, fluvastatin, pravastatin and simvastatin, atorvastatin, cerivastatin, pitavastatin and recently most effective, rosuvastatin (7-11).

Intravascular ultrasound imaging studies performed in clinical trials with rosuvastatin and atorvastatin revealed regression of atheromatous plaques (5).

Currently, statins are part of the second category of drugs most commonly prescribed for anticancer drugs. In the 2003-2004 period statins were used by 24 million North Americans (22-28).

Some statins (like lovastatin - Mevacor, pravastatin - Lipostat, Pravachol and simvastatin-Zocor) are obtained by fungal fermentation, and others are obtained by synthesis: fluvastatin (Lescol), atorvastatin (Sortis, Lipitor) and cerivastatin (Baycol). It should be noted that on August 8, 2001, Bayer AG banned cerivastatin on the pharmaceutical market worldwide, after 31 patients died with acute renal failure due to rhabdomyolysis, and the FDA (Food and Drug Administration) supported this decision. 15 to 19).

Only 6 statins are currently used: lovastatin, simvastatin, pravastatin, atorvastatin, fluvastatin and rosuvastatin (29-30).

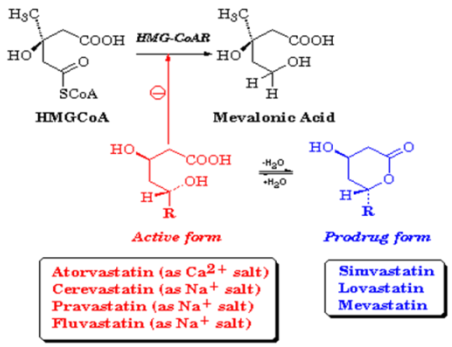

Fig no 1. Statin synthesis (www.auburn.edu/~rileytn/py421graphics/statins.gif)

MATHERIAL AND METHODS

The present study is a retrospective review of the clinical observation sheets of patients admitted to the Cardiology Clinical Section of the Arad County Emergency Clinical Hospital in October 2016. The patients were hospitalized with various pathologies and some of them required lipid-lowering treatment with statins (the one studied -Atorvastatin).

During October 2016, 151 patients were hospitalized in this section, of which 75 (49.67%) required statin-treated lipid-lowering treatment. Patients in the study group had a mean age ± SD (standard deviation) of 60.09 ± 11,431 years (age range 32 years to 86 years).

Of the total of 75 patients who received statin-treated hypolipidemic therapy, 42 (56%) were female and 33 (44%) were male; with regard to the environment of these patients it was for 40 patients (53.33%) the urban environment and for the remaining 35 patients (46.66%), the rural environment.

RESULTS AND DISCUSSIONS

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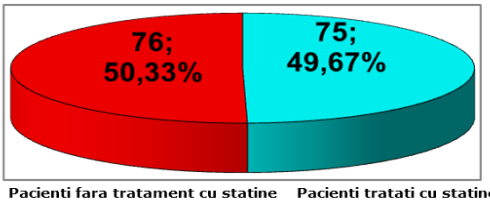

Fig.no.2 Representation of patients who had statin therapy

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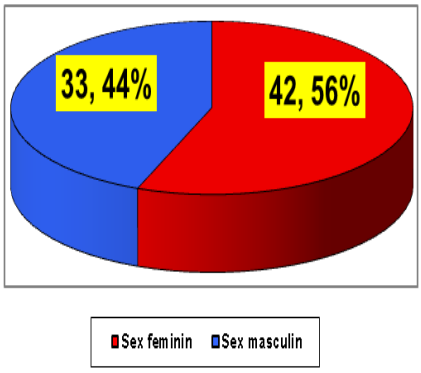

Fig.no.3 Distribution of patients in the study group after sex

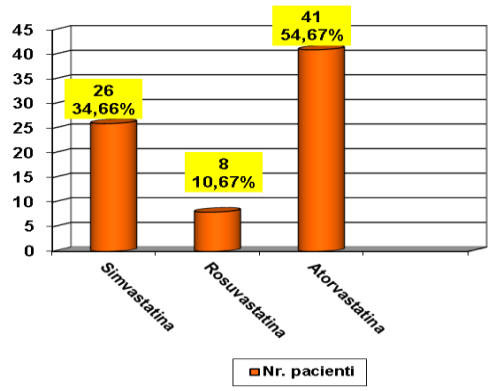

Fig.no.4 The distribution of patients according to the type of statin taken

Following the distribution of patients in the study group by the amount of rosuvastatin (crest) taken, it can be seen that all eight patients (100%) taking this statin used the 10 mg / day dose. In terms of gender distribution, 5 (62.5%) were male and 3 female (37.5%) were female.

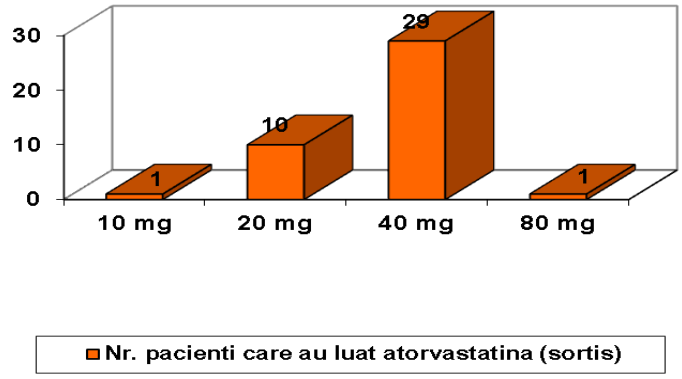

Fig.no 5 The distribution of patients taking atorvastatin (sortis) after the statin dose taken.

The distribution of patients in the study group by the amount of atorvastatin (sortis) taken, it can be seen that the vast majority (29 patients, 70.73%) took a daily dose of 40 mg of atorvastatin; At the same time, 10 patients (24.39%) took a daily dose of 20 mg, one patient (2.44%) took 10 mg daily and one patient (2.44%) took the daily maximum dose of 80 mg of atorvastatin. As regards the distribution of these patients by sex, it was found to be approximately equal, ie 23 patients (56.09%) were female and 18 patients (43.91%) were male

Statins or 3-HMG-CoA reductase inhibitors are the most effective drugs for reducing LDL-cholesterol and total plasma cholesterol, which significantly reduces cardiovascular morbidity and mortality and overall mortality

Statins are well tolerated and have well documented safety, rarely cause adverse effects, the most important being muscle (myositis, rhabdomyolysis) and hepatic (elevated liver transaminases).

Lipid-lowering treatment consisted of atorvastatin (54.67%), simvastatin (34.66%) and rosuvastatin (10.67%); Daily doses were varied atorvastatin (10, 20, 40 and 80 mg / day), simvastatin (20, 40 and 80 mg / day) and rosuvastatin 10 mg / day.

Evolution was favorable for all patients, and continued discontinuation of hypolipidemic therapy with statins, predominantly sortis (atorvastatin), treatment of associated diseases as well as hygienic-dietary regimen and periodic specialized controls

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