SIDE EFFECTS OF CHOLESTERYL ESTER TRANSFER PROTEIN INHIBITORS

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Introduction. The huge increasing in the cardiovascular morbidity and mortality has recently become utterly significant impact on health care system all over the world [5]. The main cornerstone has remained atherosclerosis, hypertension and insulin resistance. According to literature date, 35 % of people have signs of metabolic syndrome in USA, such as obesity, hypertension, and insulin resistance [1]. Scientists anticipate of increasing of cardiovascular disease up to 50 % of population in USA in a few decades [2]. There is a theory of Metabolic syndrome might be involved into initiation of atherogenesis [4]. Insulin resistance leads to decrease of lipid metabolism and to increase of LDL cholesterol level, which is storage into the arteria wall intima.

Both, Metabolic syndrome and preclinical atherosclerosis, are significant risk factors of cardiovascular events.

The searching for new hypolipidemic medicine is still remained the cornerstone of successful treatment of atherosclerosis. Recently, it has been discovered the new group of drugs as cholesteryl ester transfer protein (CEPT) inhibitors, which might have potential benefits in some specific condition. Some researcher announced of CETP inhibitors are reduced the risk of diabetes mellitus development [3], which can be potentially useful in Metabolic syndrome patients.

Aim. The aim of the research is to analyze literature source about the possible side effects of CETP inhibitors in population, which might restrict their usage in the future.

Material and methods. The material of the study was the data of other scientists about CEPT inhibitors with the identification of their side effects. We have done looked at glance analysis of more over 20 different scientific paper to clarify pro and contra of CETP inhibitor usage.

Results and discussion. There is a lack of clinical studies of CETP inhibitors. Their side effects have been poorly understood yet. In a smaller preliminary safety trial there was a 0.7 mm increase in systolic blood pressure and 0.3 mm in diastolic blood pressure in anacetrapib treated subjects in the REVEAL study, similar in magnitude to what was observed with evacetrapib and dalcetrapib, but much less than for torcetrapib. The side effect profile for anacetrapib is distinct from statins deficiency, in particular the decrease in diabetes mellitus risk (although small) may be viewed beneficially by patients and physicians. Although the increase in mean BP is small, in individual patients it may be larger and BP would need to be closely monitored. The ILLUMINATE study was terminated because of a 25% increase in cardiovascular events and a 58% increase in deaths from any cause in the torcetrapib group.

On the other hand, it has been discovered additional positive effect of CETP inhibitors in some special condition in patients with atherosclerosis. First of all, CETP inhibitors could be a useful therapeutic option for the effective hypolipidemic treatment of high-risk patients especially if the results of trials with other CETP inhibitors confirm the positive cardiovascular effects of this drug class.

As far as the next point to be concern, based on the current knowledge regarding its effects on lipidemic profile, anacetrapib could be useful for the treatment of the next condition:

1) High-risk patients who do not attain their LDL cholesterol target despite optimal hypolipidemic treatment;
2) Patients with familial hypercholesterolemia;

3) Patients with statin intolerance. This possible indication of anacetrapib could be the most important in the future since non-statin treatment with a potent CETP inhibitor (possibly in combination with ezetimibe) could be associated with large concordant absolute reductions of LDL cholesterol.

4) There is also evidence that CETP inhibition improves glycemic control and reduces new onset diabetes, an effect that has the potential to counteract the increase in new onset diabetes associated with statin treatment.

The last, but not at least, there is thus a compelling case for using the combination of a statin plus a CETP inhibitor in people at high cardiovascular risk that are treated with a statin and are at risk of developing diabetes. This will not only reduce the risk of having a coronary event beyond that achieved by a statin alone, but it will also counteract the statin-induced development of diabetes.

Conclusion. Despite the revealed side effects, it has been observed the large number of positive benefits of CETP inhibitors, which give opportunity to widely use CETP inhibitors for atherosclerosis treatment. It needs more trials of CETP inhibitors side effects be conducted to clarify the condition of their prescription.

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