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Session Type	Poster Presentation
Track	Diagnosis, Prevention and Treatment of Cardiovascular Disease
Workshop	New Challenges and Targets of Cardiovascular Prevention and Treatment
Poster #	4.114
Date	**Tuesday, June 28, 2011**
Time	**13:50 – 14:50 CET**
Presentation	**MIPOMERSEN, AN APOB SYNTHESIS INHIBITOR, EVALUATION OF POTENTIAL TO REDUCE NECESSITY FOR LIPID-APHERESIS IN PATIENTS WITH HETEROZYGOUS FH AND CAD**

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Introduction: Weekly lipid-apheresis is a treatment option in patients with CAD and drug-resistant LDL-hypercholesterolemia. Country-specific thresholds for LDL-cholesterol (LDL-C) are used to initiate apheresis (≥100mg/dl, ≥130mg/dl, or ≥160mg/dl). Mipomersen, an ApoB-synthesis inhibitor, reduces LDL-C significantly when added to maximally tolerated lipid-lowering therapy. We hypothesised that mipomersen may prevent the necessity for apheresis by reducing LDL-C values below thresholds for apheresis eligibility.

Method: Data of a previous study in 123 patients with CAD and heterozygous FH (clinical-trials NCT00706849; maximal statin therapy; mipomersen-82 patients, placebo-41 patients; median age 56years, 63% male; baseline LDL 153mg/dl, mean reduction 28.0%), were used to evaluate in what percentage of patients the addition of mipomersen resulted in a LDL-C level below the thresholds for apheresis. For this analysis it was assumed that all other apheresis criteria are fulfilled.

Results: Mipomersen reduced the percentage of patients with LDL≥160mg/dl from 39% to 2% (32/2 patients, relative reduction (RR) 95%), with LDL≥130mg/dl from 62% to 16% (51/13 patients, RR 74%), and with LDL≥100mg/dl from 98% to 54% (80/44 patients, RR 45%), while no significant changes were observed with placebo.

Summary: When added to maximally tolerated lipid lowering therapy mipomersen may reduce the necessity for apheresis in a significant number of patients with

heterozygous FH and CAD. In Germany where usually a threshold of 100mg/dl is applied almost half of aphereses could potentially be avoided with addition of mipomersen to maximally tolerated lipid-therapy. Further studies are warranted to evaluate whether patients who qualify for apheresis could be adequately controlled with mipomersen.

Session Type	Poster Presentation
Track	Diagnosis, Prevention and Treatment of Cardiovascular Disease
Workshop	New Challenges and Targets of Cardiovascular Prevention and Treatment
Poster #	4.117
Date	**Tuesday, June 28, 2011**
Time	**13:50 – 14:50 CET**
Presentation	**EFFECT OF MIPOMERSEN ON LP(A) IN PATIENTS WITH HETEROZYGOUS FAMILIAL HYPERCHOLESTEROLEMIA; RESULTS FROM TWO PHASE 3 STUDIES**

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Objective: To evaluate the impact of lipoprotein(a) [Lp(a)] apheresis on the carotid intima-media thickness (CIMT) in CHD patients with Lp(a) levels ≥50 mg/dl and LDL-C concentration ≤2.5 mmol/l.

Methods: We recruited 33 patients (22 men, 11 women, 54.2±7.4 years) with angiographically verified coronary atherosclerosis. Patients were divided into two groups: group I (n=15) received Lp(a) apheresis plus atorvastatin, group II (n=18) - atorvastatin. Initially groups were comparable on clinical and biochemical characteristics. The CIMT was measured at baseline and after the 6-month therapy by two independent blinded operators on the distal 1 cm of right and left common carotid arteries before the bifurcation. Specific Lp(a) apheresis was performed with "Lp(a) Lipopak"® columns once a week.

Results: By the single Lp(a) apheresis procedure Lp(a) decreased by an average of 66±7%, LDL-C levels did not significantly change. Currently data on CIMT changes were obtained in 8 patients from apheresis group. We revealed reduction in the mean CIMT on Lp(a) apheresis from 0.912±0.340 mm to 0.882±0.265 mm vs lack of changes in control group: from 0.882±0.212 mm to 0.882±0.162 mm. Lp(a) apheresis had greater efficacy regarding the amount of regressed segments of carotid artery than atorvastatin alone: 10 of 16 segments (63%) vs 14 of 36 segments (38%), p=0.14, respectively.

Conclusion: Our preliminary data have shown that specific Lp(a) lowering could stabilize CIMT in CHD patients. This is the first study providing the evidence in using Lp(a) as a therapeutic target for achieving a beneficial effect on a surrogate marker of atherosclerosis.