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Pelacarsen in primary reduction of lipoprotein (a); single center experience in four patients

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Introduction: Lipoprotein(a) (Lp(a)) has been recognized as an independent risk factor for atherosclerosis and the progression of aortic stenosis. Until recently, a drug designed to lower blood Lp(a) concentrations has shown promising results. Pelacarsen is an oligonucleotide that binds to and inhibits the Lp(a) gene.[1] The purpose of this summary is to present the initial effects of Lp(a)-lowering therapy in four patients after three months of treatment.

Case report: The effect of pelacarsen was evaluated in four patients. The first patient had a recanalized chronic total occlusion lesion and progression of coronary artery disease, as observed on follow-up angiography. The second patient had undergone coronary artery bypass grafting and had experienced multiple myocardial infarctions. The third patient had suffered a myocardial infarction at a young age, with progression of anginal complaints. The fourth patient had experienced an ischemic stroke secondary to carotid artery stenosis, in the presence of coronary artery disease. Baseline demographic data are presented in **Table 1**. Baseline Lp(a) levels ranged from 353 nmol/L to 699.1 nmol/L. The effect of pelacarsen on reducing Lp(a) was a 61% average decrease (ranging from 39.7% to 69.3%). Data are presented in **Table 1**.

Conclusion: Adding pelacarsen to the treatment regimen of patients with elevated Lp(a) levels resulted in a 61% reduction in blood Lp(a) concentrations over a three-month period. Although recent studies have not demonstrated an effect on survival in patients with elevated Lp(a) levels, its impact on lowering these concentrations is significant; therefore, future studies should investigate the broader effects of this therapy.

TABLE 1. Basic patient characteristics and lipoprotein(a) levels before and after three months of treatment.

N	SEX	AGE (year)	BMI (kg/m²)	BSA (m²)	BASELINE LIPOPROTEIN(a) LEVEL (nmol/L)	BEFORE 4TH APPLICATION (nmol/L)	%
1	M	64	27.2	2.12	431.8	260.5	39.7%
2	M	59	24.2	1.82	699.1	214.9	69.3%
3	M	42	24.6	1.96	353	110	68.8%
4	F	56	37	2.01	415	140.9	66%

BMI = Body Mass Index; BSA = Body Surface Area

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