

8. Summary

Lipids present the main risk factor of atherosclerosis in progress. Familial hypercholesterolaemia (FH) and familial combined hyperlipidaemia (FCHL) are inherited disorders associated with high incidence of severe cardiovascular complications. So extracorporeal elimination is used for selective removal of LDL-cholesterol in severe hypercholesterolaemias as combined strength of conservative and invasive lipid-lowering therapy may reduce progress of atherosclerosis in these high-risk patients.

We take care of 9 patients suffering from FH, in age from 17 to 59 years (median 55 years). Repeated LDL-apheresis based on immunoabsorption has been used to treat this long-term patients (treatment interval $17,5 \pm 1,6$ days). Primary device Cobe Spectra (USA) was used; secondary device ADA (Adsorption-Desorption Automat, Medicap, Germany) with absorbers Lipopak (Pocard, Russia), the ADA system automatically performs. In addition to lipid metabolism we went after various markers of basic laboratory screening, we also measured markers of primary and secondary haemostasis, morphological and operative evidence of thrombocytes, plasma concentration of cytoadhesive molecules etc. In long-term patients we detect morphological changes of vessel wall with ultrasound device. We went after side effects of LDL-apheresis too. Finally we tried to predict and optimize procedure of therapeutic LDL-apheresis to be most effective, safe and well accepted by our long-term patients.

Therapeutic procedure of LDL-apheresis induced a significant interrelated decrease of atherogenic lipoproteins. At the same time it also induced positive changes of haemostasis, it also positively affected morphological changes of vessel wall and finally stabilized these high-risk patients. Therapeutic LDL-apheresis is an invasive, safe and effective method in use of experienced staff in specialised workplace.