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THE ROLE OF LDL APHERESIS IN THE TREATMENT OF FAMILIAL HYPERCHOLESTEROLAEMIA

G. R. Thompson

MRC Lipoprotein Team, Hammersmith Hospital, London, UK.

LDL apheresis was developed 15 years ago against a background of successful usage of plasma exchange since 1975. The chief indication for these procedures is to treat homozygous familial hypercholesterolaemia (FH), a potentially fatal condition which is poorly responsive to conventional therapy. Currently, dextran sulphate/cellulose adsorption columns (Kaneka) and on-line heparin precipitation (HELP) are the most popular systems used in LDL apheresis. Weekly or bi-weekly treatment of 1-2 plasma volume equivalents plus concomitant simvastatin and probucol enable LDL cholesterol to be maintained at 30-50% of its untreated level, with resultant regression of xanthomas, arrest of progression of coronary atherosclerosis and improved life expectancy. However, aortic stenosis may progress despite apheresis and necessitate valve replacement. In future better control of hypercholesterolaemia may result from combining apheresis with a new and potent HMG CoA reductase inhibitor, atorvastatin. LDL apheresis can also be useful in treating drug-resistant FH heterozygotes with coronary disease. The FH Regression Study showed no evidence that reduction by apheresis of both LDL and Lp(a) was more advantageous than reduction by combination drug therapy of LDL alone but further studies are needed to determine whether lowering Lp(a) is beneficial.