

Seven-year data from the German Lipoprotein Apheresis Registry

Regular lipoprotein apheresis reduces cardiovascular events in patients with high levels of low-density lipoprotein cholesterol (LDL-C) and/or lipoprotein(a) and progressive cardiovascular disease despite maximally tolerated lipid lowering therapy, according to results from the German Lipoprotein Apheresis Registry. This unique registry includes data from more than 47,000 treatments over a period of 7 years.

According to lead author Prof. Dr. med. Volker J.J. Schettler, Centre of Nephrology, Apheresis and Dialysis, Goettingen, Germany: 'The German lipoprotein apheresis registry shows the clinical benefit of regular lipoprotein apheresis in these very-high-risk patients with elevated LDL-C and/ or elevated lipoprotein(a) levels. The reduction of cardiovascular events was observed already in the first year of weekly lipoprotein apheresis treatment and was even more pronounced and sustained in the following 6 years. Treatments were also safe with a low rate of adverse effects.'

Lipoprotein apheresis is a procedure involving the removal of lipoproteins - LDL-C and/or lipoprotein(a) - from the blood, in a similar manner to renal dialysis. Guidelines tend to recommend lipoprotein apheresis as a treatment of last resort in very-high-risk patients with elevated lipid levels despite maximally tolerated pharmacotherapy. Treatment is foundational in patients with homozygous familial hypercholesterolaemia, as well as in those with severe heterozygous familial hypercholesterolaemia refractory to lipid lowering therapy (1). Cost is often a limiting factor for the availability of treatment. In Germany, however, lipoprotein apheresis is reimbursed by the healthcare system.

Over the period 2012-2020, 2,055 patients with progressive cardiovascular disease underwent regular lipoprotein apheresis. All patients showed an acute reduction in LDL-C (median 68.2%) and lipoprotein(a) (median 72.4%).

When compared with the incidence rate 1 and 2 years before starting treatment, major coronary events were reduced by 78% during the first 2 years of lipoprotein apheresis. Event rates remained low during subsequent follow-up over 3 to 7 years.

With highly effective treatments for lowering LDL-C, the use of lipoprotein apheresis may be avoided or minimised in some very-high-risk patients with very high lipid levels. However, it is a necessary treatment in those patients refractory to lipid lowering therapy and integral to the management of homozygous familial hypercholesterolaemia. These latest 7-year data from the German Lipoprotein Apheresis Registry show that the use of this procedure has clinical benefit beyond lowering LDL-C and/or lipoprotein(a), leading to a stable low rate of cardiovascular events.

Schettler VJJ, Peter C, Zimmermann T, al. The German Lipoprotein Apheresis Registry – more than 7 years on. Late Breaker Session 2: Wednesday 2nd June, 10:00 - 11:15, Hall A

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Reference

1. Hegele RA, Borén J, Ginsberg HN, et al. Rare dyslipidaemias, from phenotype to genotype to management: a European Atherosclerosis Society task force consensus statement. *Lancet Diabetes Endocrinol* 2020;8:50-67.

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