Blood Lipid Profile in Hemodialysis Patients Treated with Human Erythropoietin

O.		Mat
J.-C.		Stolar
B.		Georges

Department of Nephrology, CHU of Tournai, Belgium

Dr. Olivier Mat, Service de Dialyse, Institut Médico-Chirurgical, 80, Chaussée de St-Amand, B-7500 Tournai (Belgium)

Sir,

Hyperlipidemia is common among patients undergoing chronic hemodialysis, usually characterized by elevated triglycerides and cholesterol levels, an increase in very-low-density lipoprotein and a decrease in high-density lipoprotein cholesterol: a type IV hyperlipidemia, independent of years on hemodialysis [1]. All patients have an increase (> 1) in the ratio of serum apolipoprotein B to serum apolipoprotein A_I. This abnormality may represent a possible mechanism for accelerated atherosclerosis.

During human recombinant erythropoietin (rHuEpo) treatment, increased food intake, anabolic effect and tissue oxygenation can influence lipid metabolism [2]. For these reasons it would be interesting to know if long-term treatment with rHuEpo could induce changes in the lipid profile of hemodialysis patients [3].

Lipid patterns in 24 hemodialysis patients (sex ratio: 15/9) were analyzed before and 9-36 months (19.2 ± 7.3) after rHuEpo administration 100 U/kg/HD (hemodialysis). They were dialyzed from 6 to 90 months (46.3 ± 26.3) and all had a good response to rHuEpo. Dry weight, blood pressure and glucose levels did not change significantly throughout this period. The dialytic program was unchanged and drugs with known influence on lipid metabolism were avoided.

Blood samples were collected immediately before dialysis treatment after a 12-hour fast. Cholesterol, triglycerides, high-density lipoprotein cholesterol, apolipoproteins A_I and B were measured and the results presented in figure 1.

We conclude that long-term treatment with rHuEpo does not significantly change lipid blood values in hemodialysis patients. No difference was seen according sex, years on hemodialysis and dialysate buffer composition (acetate or bicarbonate).

Fig. 1. Lipid profile. EPO = Erythropoietin; HDL = high-density lipoprotein; Chol = cholesterol; Apo A_I = apolipoprotein A_I; Apo B = apolipoprotein B.

References

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