

Effect of Atorvastatin on CETP (Cholesteryl Ester Transfer Protein) Level and Lipid Profiles in Children Refractory Nephrotic Syndrome with Hyperlipidemia

ABSTRACT

BACKGROUND – Atorvastatin is one of the statin drugs recommended for treating hyperlipidemia in children because it is more potent and safer with minimal drug side effects. Various studies have found the effect of atorvastatin on CETP level, but the results obtained are still controversial.

OBJECTIVE – To analyze the effect of atorvastatin on CETP level and lipid profiles in children refractory nephrotic syndrome with hyperlipidemia.

METHOD – A randomized clinical trial (RCT), double blind, pre and post test control group with treatment given for 4 weeks. The research group consisted of two groups: the control group (placebo/without atorvastatin) and the treatment group (atorvastatin). The study was conducted in pediatric nephrological outpatients Dr. Soetomo Surabaya from December 2019 to March 2020. Initial examination was carried out at week 0 ie complete blood, urinalysis, albumin, BUN, serum creatinine, liver function, total cholesterol, LDL, HDL, TG, and CETP. After 4 weeks, the examination was retested.

RESULTS AND CONCLUSIONS – From the results, the difference in average total cholesterol and LDL at week 0 and week 4 in the control group and the treatment group was significant ($p < 0.05$). Giving atorvastatin reduced total cholesterol by 29.2%, LDL cholesterol by 30.8%, TG level by 7.5%, and did not yet have an increase in HDL cholesterol levels. In this study, the mean CETP level in the treatment group were not significant differences despite a decrease in CETP level of 8%. Patients receiving atorvastatin showed a relationship between changes in CETP level with total cholesterol and LDL level. Thus, CETP can be said to be a new biomarker candidate of hyperlipidemia in pediatric patients with refractory nephrotic syndrome.

KEYWORDS : Atorvastatin, CETP, Children, Hyperlipidemia, Lipid Profiles, Refractory Nephrotic Syndrome.