We aimed to evaluate the effect of levothyroxine treatment on cardiovascular risk factors and mean carotid artery intima media thickness [CIMT] in patients with Subclinical hypothyroidism [SCH].

Material and Methods: A total 60 SCH patients with TSH level between 5 and 10 μIU/L included into the study. Patients were randomized into two groups as treatment (n=30) and control (n=30) groups. At the beginning of the study and after six months; Body mass index [BMI], systolic and diastolic blood pressure, Total cholesterol [TC], LDL, HDL, Triglyceride [TG], fibrinogen, homocysteine, High sensitivity CRP [HsCRP], mean CIMT were measured in each group. LT4 treatment was given to patients in treatment group and dosage tapered according to TSH level.

Results: Both groups were similar for demographic properties, diabetic, smoker and postmenopausal patient ratio, BMI, systolic blood pressure. Diastolic blood pressure was higher than control in treatment group. Baseline TSH, vitamin B12, folic acid, HDL, TG, fibrinogen, homocysteine, HsCRP levels and mean CIMT were similar in both groups. However, TC and LDL levels were higher in treatment group. There were no differences between baseline and after six month measurements in control group. In addition; TSH, LDL, fibrinogen and mean CIMT decreased and HDL-C level increased in treatment group.

Conclusion: We found that LT4 therapy associated with improvement in atherogenic lipid profile, fibrinogen level and mean CIMT. Therefore, we suggest that LT4 therapy is necessary for the prevention of modifiable cardiovascular risk factors in patients with TSH level between 5 and 10 μIU/L.