

## **Abstract**

**Objective:** To evaluate the effect of Eltroxine in subclinical hypothyroidism on arterial stiffness, lipid profile and inflammation.

**Methods:** In a prospective study, 34 patients with subclinical hypothyroidism were included. Patients were treated with Eltroxine and were assessed at baseline, one month, 4 months and 7 months after initiation of treatment. Blood samples were taken for lipid profile and highly sensitive CRP. Arterial stiffness was evaluated by Augmentation index.

**Results:** After accomplishing euthyroidism, the augmentation index decreased from  $17.25 \pm 8.38$  to  $14.38 \pm 6.54$  ( $P < 0.01$ ) and augmentation index percentage decreased from  $36.21 \pm 11.52$  to  $33.21 \pm 9.19$  ( $P = 0.03$ ). Systolic blood pressure decreased from  $134.78 \pm 20.02$  to  $127.61 \pm 13.72$  ( $P < 0.01$ ). No significant improvement was found in other parameters. In those patients whose AIX's decreased, LDL levels decreased by  $15.56 \pm 37.15$  mg/dl compared to the patients whose AIX's didn't decrease and LDL increased by  $24.16 \pm 57.46$  mg/dl ( $P = 0.057$ ). Total Cholesterol decreased by  $27.94 \pm 63.62$  mg/dl in the patients whose AIX's decreased and increased by  $38.83 \pm 98.04$  mg/dl in the patients whose AIX's didn't improve ( $P = 0.06$ ).

**Conclusions:** In patients suffering from sub-clinical hypothyroidism, treatment with Thyroxin had a significant beneficial effect on arterial stiffness and systolic blood pressure, and no effect on lipid profile or highly sensitive CRP.