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Background
Homocysteine is an independent risk factor for cardiovascular disease. Recently suggested that Homocysteine may increase Oxygen-reactive species and/or decrease antioxidant defense thus .may induce endothelial lesions through an increase in oxidative stress.

Objective
We investigated whether treatment with oral folate has beneficial effect on homocysteine and serum lipid levels and whether homocysteine changes relations to TAOC changes.

Material and method
healthy hypercholesterolemic volunteers were randomized to placebo and 5 mg folate 40 supplementing groups. Before and after intervention period (eight weeks) blood samples were taken for measurement of lipid profile of serum (enzymatically), Homocysteine and Folate (EIA). and TAOC (cholorimetrically)

Results
Supplementation with folate reduced Homocysteine levels compared with placebo group (mean reduction 4.92 vs. 0.93 μmol/L, p=0.035) and strongly increased TAOC levels (mean increase 0.4 vs. 0.07 mmol/L, p<0.001). folate supplementing affected serum lipid profile and significantly increased HDL-C levels (3.46 vs. 0.71 mg/dl, p=0.035) and decreased TC levels (mean reduction .102.75 vs. 80.49 mg/dl, p<0.001) compared with placebo use.

Conclusion
Our study showed that folate supplementation reduces TC and Homocysteine levels, increases TAOC and HDL-C levels and can be used for cardiovascular risk reduction in Hypercholastrolemic patients.