Introduction: Smoking has been associated with high serum levels of leptin, a pleiotropic hormone shown to up-regulate the expression of several pro-inflammatory cytokines. In contrast, it has been reported that smokers have lower levels of adiponectin. Objectives: The objective of this study was to assess the longterm effects of smoking cessation on plasma leptin and adiponectin levels. Methods: 45 apparently healthy smokers of both sexes were recruited. The subjects who successfully quit smoking constituted the sample group. 12 healthy non-smokers constituted the control group. Serum leptin and adiponectin levels were evaluated at the beginning of the study and at 3, 6 months after smoking cessation. Results: We report our preliminary results. Among the sample group, 17 subjects had quitted smoking at 3 months and 9 subjects at 6 months. Samples’ leptin was increased from baseline to three months (mean change 47.8 pg/ml [95% CI 2.016931 93.578481], p =0.042), whereas controls’ leptin did not change from baseline (p>0.05). Samples’ leptin was decreased from three to six months (mean change -68.95289 pg/ml [95% CI -111.20515 -26.70062], p < 0.01).The changes of adiponectin in the sample group were not significant. There is a strong positive correlation (correlation-coefficient = 0.79) between the change of leptin from baseline to 6 months and the change of BMI from baseline to 6 months for the sample group. Conclusions: Serum leptin levels appear to increase considerably within 3 months after smoking cessation and then decrease significantly from 3 to 6 months. This finding may provide further information on how long inflammation persists after smoking cessation and whether it is definitely irreversible.