Background: TNF-α is one of the cytokines produced by the immune system. Many studies have been done to investigate the role of the immune system in first trimester pregnancy loss.

Objective: To evaluate the association of TNF-α with recurrent and missed miscarriage.

Method: a case-control study involved 35 women, 15 with recurrent miscarriage (at least three consecutive spontaneous abortions), 10 with missed miscarriage and 10 with normal first trimester pregnancy (control group). The study was conducted from the 1st of January to 30th of June 2008. Blood samples were taken from these women, TNF-α was measured in the sera by an immunoenzymometric assay using Biosource TNF-α EASIA kit (Biosource Europe S.A.).

Results: student t-test was applied to analyze the difference in serum TNF-α level between the groups. The level of significance was defined at P value < 0.05. Significantly higher levels of TNF-α was found in women with recurrent miscarriage as compared to control group (68.94 pg/ml versus 27.40 pg/ml). The difference was also significant when comparing women with missed miscarriage compared to women with missed miscarriage, however the difference between them was not statistically significant.

Conclusion: TNF-α has a significant association with miscarriage, the level is significantly higher in patients with recurrent and missed miscarriage compared to normal pregnant women; the level is higher in those with recurrent miscarriage when compared to patients with missed miscarriage.