Introduction:

One of the major causes of male infertility is the free radicals in seminal fluid which causes sperm DNA oxidation that finally leads to sperm destruction and reduction of its movement and fertility ability Therefore, in addition to semen analysis, sperm function tests(SFT) such as Sperm double – stranded DNA assessment are recommended. The aim of this study is the evaluation of effects of antioxidative treatment on sperm DNA fragmentation and IUI results.

Methods and materials:

In a randomized clinical trial study, the simple non-probability sampling was performed. 150 infertile couples candidate IUI (aged 25-40 years) attending were classified in five groups of 30 as below: control group , the group receiving vitamin C (the amount of 1,000 mg per day) , the group receiving vitamin E (to 400 mg per day) , the group receiving omega- 3 (up to 1000 mg per day) , the group receiving zinc (Zn) (the amount of 30 mg per day) all groups were treated for 2 months . Statistical analysis was performed by SPSS version 16 software package, DNA fragmentation indexes results were compared between the groups.

Results:

The mean DFI in group receiving Zn before and after the treatment was 33.6±2.14 and 21±2.9 respectively, the mean DFI in group receiving Vitamin C before and after the treatment was 38±5.36 and 26.9±5.4 respectively, in control group it was 34.7±3.66 in first sampling and 35.3±5.4 in second sampling. In the group receiving omega 3, it decreased from 37.2±4.72 before treatment to 22.6±3.5 after the treatment. In the group receiving vit E it was 37.1±3.54 before the treatment that decreased to 21.3.09 after the treatment. The comparison of the changes in 5 groups shows that vit. E was effective in reducing the fragmentation rate significantly($P<0.001$).the pregnancy rate in study groups was as follow:4 cases (13.3 %) in control group, 6 cases(20%) in vit E group, 4 cases(13.3%) in ZN group, 5 cases (16.6%) in omega 3 group and 5 cases(16.76%) in vit C group. The pregnancy rate was not significantly different in study groups based on the chi-square analysis ($P=0.952$).

Conclusion:

With regard to the results of this study, we can conclude that the antioxidant therapy can decrease the sperm DNA fragmentation, the difference between control and case groups was significant, The results of IUI in the groups receiving the antioxidant and control groups showed no significant difference.

Key word: Antioxidative treatment, Sperm, DNAfragmentation, IUI