**Evaluation the effect oral N-acetyl cistein on quantitative serum high sensitivity CRP and Hemoglobine in End stage renal disease under hemodialysis patients**

**ABSTRACT**

**Introduction:** The cardiovascular disease is the major cause of death in the End stage renal disease (ESRD) patients. In addition to the classic cardiovascular risk factors, these patients have specific risk factors related to uremic disease, such as systemic inflammation induced by oxidative stress. It must be noted that the high sensitivity CRP (hs-CRP) has direct relationship with cardiovascular disease. Furthermore, systemic inflammation could lead to chronic anemia. This study is designed to evaluate the effect of oral N-acetyl cistein (NAC) as antioxidant on the serum hs-CRP and hemoglobin (Hb) level in the ESRD disease patients.

**Methods:** This study was done based on double blind clinical trial and it was performed on 51 ESRD patients who where under hemodialysis (26 patients in the intervention group and 25 patients in the control group). The intervention group was taken 600 mg NAC bid for a month. The control group was taken placebo for the same period of time. In all patients measured Hb, HCT, ferretin, hs-CRP, Ca, Ph, ALP test before and after the intervention. Afterward, the obtained data was analyzed.

**Results:** No meaningful statistical difference was observed in the average levels of ALP, Ca, Hb, Ferretin and hs-CRP before and after the intervention in two group (P>0.05). However, the average level of phosphorous was noticeably different in the two group.(P =0.038). significant difference was observed in the average levels of HCT, Ferretin and hs-CRP (P<0.05).

**Conclusion:** Based on our study, NAC reduced the average level of HCT, Ferretin and hs-CRP in the ESRD patients. However due to the briefness of one month intervention period, the observed reduction was not significant.

**Keywords:** End stage renal disease (ESRD), high sensitivity CRP (hs-CRP), N-acetyl cistein (NAC), hemoglobin (Hb).