

ABSTRACT

This is thought that oxidative stress may cause the pathogenesis of chronic fatigue syndrome (CFS). In the current study the oxidative stress was measured in pregnant women with chronic fatigue syndrome and compared with those without CFS. For this purpose five different assays (ABTS: 2, 2-azinobis-3-ethylbenzothiazoline-6-sulphonic acid, FRAP: ferric reducing antioxidant power, DPPH: 2, 2-diphenyl-1-picrylhydrazyl, SOD: superoxide dismutase and metal chelating activity assays) were used. There was a significant ($P<0.05$) lower plasma level of antioxidant capacity in pregnant women with chronic fatigue syndrome (3.12 ± 0.80 mmol/L, 10.57 ± 4.01 mmol/L) compared with those without CFS (4.69 ± 0.73 mmol/L, 21.01 ± 5.39 mmol/L) using ABTS and FRAP assay respectively. The plasma level of radical scavenging capacity was significantly ($P<0.05$) lower in pregnant women with chronic fatigue syndrome ($60.75 \pm 3.91\%$, $33.75 \pm 6.70\%$) compared with healthy volunteers ($77.90 \pm 3.58\%$, $43.76 \pm 8.80\%$) using DPPH and SOD assay respectively. There was a significant ($P<0.05$) lower plasma level of bound iron in pregnant women with CFS ($30.14 \pm 8.11\%$) compared with pregnant women without CFS ($37.69 \pm 10.28\%$) using metal chelating activity assay. It is apparent that oxidative stress might be involved in developing CFS, and significant lower levels of TEAC value, FRAP value, DPPH anion scavenging capacity, superoxide anion scavenging capacity and bound iron in pregnant women with CFS indicate that these women and their infants are at higher risks as compared to pregnant women without CFS and their infants.