Oxidative stress as a result of high levels of reactive oxygen species (ROS) plays an important role in the etiology of male infertility. Sperm cells are rich in polyunsaturated fatty acids, and therefore susceptible to high ROS levels. Chronic exposure to oxidative stress can overwhelm the limited antioxidant defenses by triggering lipid peroxidation. The purpose of our study was to determine the relationship between the markers of seminal oxidative stress such as, ROS, total antioxidant capacity (TAC), and ROS-TAC score with semen characteristics in subfertile men. Semen specimens from 300 men attending our infertility clinic were examined according to the WHO criteria. Concentration of white blood cells (WBCs) in the semen was measured by the Endtz test. Ninety-eight men with WBC concentration greater than 0 X $10^6$/mL were excluded. The hypo-osmotic swelling test (HOS) test was done to evaluate the sperm membrane integrity. Sperm morphology was evaluated by both the WHO and by Kruger's strict criteria. ROS and TAC production was measured by the chemiluminescence assay. A composite ROS-TAC score of $35.6 \pm 1.1$, which quantifies low ROS and high TAC levels was significantly correlated with high sperm concentration ($r = 0.26; p < 0.001$), and normal WHO morphology ($r = 0.15; p = 0.047$). This score was significantly lower in our patient population compared to that seen in proven fertile men ($47.1 \pm 3.9$). Elevated ROS levels were correlated with the presence of abnormal sperm tails ($r = 0.17; p = 0.01$), and poor sperm motility ($r = -0.17; p = 0.02$). Similarly, poor sperm motility ($r = -0.21; p = 0.002$), abnormal tails ($r = 0.28; p < 0.001$), amorphous forms ($r = -0.15; p = 0.04$), and abnormal Kruger scores ($r = -0.17; p = 0.01$) were significantly correlated with high TAC results. HOS was not significantly correlated with either ROS and TAC. Correlation of some abnormal semen characteristics with high ROS and TAC levels in subfertile men suggests that the antioxidants in the ejaculate may not be sufficient to scavenge the overwhelming generation of ROS. ROS - TAC score is a better predictor of semen quality in these men and lower score indicates the presence of oxidative stress.