We investigated the effects of bisphosphonate (BP) on oxidative stress levels in blood of patients with cancer. In total, 19 patients with cancer and 21 healthy subjects were included in the study. BP was intravenously administrated to the participants for 6 weeks. The patients had higher lipid peroxidation (LP) levels in the plasma and erythrocyte samples but lower glutathione peroxidase (GSH-Px) and plasma vitamin E values. In patients treated with BP, calcium and LP levels decreased, but GSH-Px and vitamin E values improved. In conclusion, we observed that treatment with BP alleviated oxidative stress induced by cancer.