

Either scattered or absorbed, the laser light when entered a biological tissue based on how the photon is distributed in the target tissue, and the effect of radiation is determined by absorption. Antioxidants can protect against damage induced by radiation. Uric acid has an excellent antioxidant capacity in prevention and reduced severity of diabetic complications. This study aims to conduct an assessment over the effect of Nd: YAG laser irradiation on the level of scavenging system marker (uric acid) in blood samples taken from diabetic patients and apparently healthy control individuals. Serum uric acid was assessed by enzymatic colorimetric test before and after irradiation by pulsed Nd: YAG laser in diabetic patients (n=102) as compared with control (n=97) at wave length (1064 nm) 25 pulse with energy (700mJ) in diabetic patients and healthy control with age range 20-70 for both groups. Serum uric acid level after Nd: YAG laser irradiation was significantly higher than those without irradiation for control group ($P < 0.001$) and its level after irradiation was significantly lower than those without irradiation for diabetic patients ($P < 0.01$). Before laser irradiation, a significant difference occurred between both samples: (Patients and control ($P < 0.05$)), but the results showed highly significant differences in uric acid level after irradiation based on Nd: YAG laser for control and diabetic samples ($P < 0.001$). An effect of Nd: YAG laser irradiation on uric acid concentration values as a scavenger parameter in control which is highly significant altered after irradiation, meanwhile, a significant decline occurred in its level among diabetic patients after irradiation.