Objective: The purpose of this study was to determine the serum levels of malondialdehyde (MDA) as a lipid peroxidation marker, and 8-hydroxydeoxyguanosine (8-OHdG), as an oxidative deoxyribonucleic acid (DNA) damage marker, in chronic periodontitis patients with hyperlipidemia.

Materials and Methods: A total of 74 individuals were divided into four age and sex-matched groups: 18 patients with hyperlipidemic and chronic periodontitis (HLp), 18 periodontally healthy patients with hyperlipidemia (HLh), 19 systemically healthy individuals with chronic periodontitis (Cp), and 19 systemically and periodontally healthy controls (Ch). Clinical periodontal parameters were measured, and serum lipids, MDA, and 8-OHdG levels were assessed in blood samples.

Results: 8-OHdG, MDA, probing pocket depth, clinical attachment level, and percentage of bleeding on probing (BOP%) were significantly higher in the HLp group than the Cp group. In the HL group, BOP% was significantly correlated with total cholesterol, the ratio of total cholesterol to high density lipoprotein, and 8-OHdG levels. A significantly correlation between 8OHdG and MDA were also observed in the HL group.

Conclusion: The results of this study indicate that serum MDA and 8-OHdG were found to be highest in the HLp group. The increased levels of MDA and 8-OHdG seen in HLp patients may be attributed to a result of more harmful oxidative status in association hyperlipidemia and periodontitis.