BACKGROUND:

Several studies have shown a possible association between periodontal disease and obesity. The aim of this study is to evaluate serum plasminogen activator inhibitor 1 (PAI-1), tumor necrosis factor-alpha (TNF-α), and high-sensitivity C-reactive protein (hsCRP) levels in the association between obesity and periodontal disease.

METHODS:

Two hundred individuals participated in this study. Body mass index (BMI), waist-to-hip ratio, plasma triglyceride (TRG), total cholesterol, low-density lipoprotein cholesterol, high-density lipoprotein cholesterol (HDL-C), fasting blood glucose (FBG), hsCRP, TNF-α, PAI-1, and periodontal parameters (including plaque index [PI], probing depth [PD], clinical attachment level [CAL], and percentage of sites with bleeding on probing) were evaluated.

RESULTS:

The groups with BMI ≥ 25 had higher median values for FBG, TRG, hsCRP, PAI-1, PI, and CAL than did the groups with a BMI < 25 (P <0.01). Serum TRG levels were positively correlated with PI, PD, and CAL. There were negative associations between clinical periodontal parameters and HDL-C. There were statistically significant correlations between PAI-1 and clinical periodontal parameters (PI, PD, and CAL).

CONCLUSION:

Serum PAI-1 levels may play an important role in the association between periodontal disease and obesity.