

Clinical usability of aspartate aminotransferase to evaluate the prognosis of periodontal regeneration therapies: prospective, longitudinal study

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Abstrak

ABSTRACT

To evaluate the degree of periodontal tissue destruction, aspartate aminotransferase (AST) levels in the gingival crevicular fluid (GCF) are utilized as a predictor of periodontal therapy. We have previously shown that the usefulness of AST activities [periodontal tissue monitor (PTM) values] using a PTM-kit to evaluate the effects of initial periodontal therapy and periodontal regeneration therapy by enamel matrix derivative (EMD). This prospective, longitudinal study was conducted using 38 healthy and 80 periodontitis sites with probing depth (PD) of 5 - 10 mm for guided tissue regeneration (GTR) and EMD from 36 patients. GCF samples were used to evaluate PTM values at base line (BL) and after 6 months of surgeries (re-evaluation: RE), and periodontal examinations were performed concurrently. PTM values at BL were statistically improved at RE, accompanied by the improvement of periodontal parameters in both groups. PTM values and PD, and the clinical attachment level (CAL) showed high correlations. PD, CAL and bleeding on probing (BOP) were highly correlated with PTM values in both groups, whereas only PD showed a significant correlation with PTM values at RE in the GTR group. Change in the amounts of PD, CAL and BOP between BL and RE in both groups showed no correlation with PTM values. In the negative PTM value sites at BL in EMD group, the mean PD was significantly reduced at RE compared with positive PTM sites at BL. PTM values are able to be utilized as the biochemical predictor of prognosis after periodontal regeneration therapy.