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PERIODONTOLOGY

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: MAJOR

KEY WORD β -GLUCURONIDASE / CREVICULAR FLUID / DIABETES MELLITUSJAREEWAN POLCHAI : β -GLUCURONIDASE IN CREVICULAR FLUID OF PERIODONTITIS

PATIENTS WITH DIABETES MELLITUS. THESIS ADVISOR : ASSOC. PROF. NAULCHAVEE

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ISBN 974-332-884-5

The present study was designed to assess β -glucuronidase activity in gingival crevicular fluid (GCF) from periodontitis patients with and without type 2 diabetes mellitus (DM), and to correlate it with clinical parameters. Forty subjects (240 teeth) in this study were divided into 5 groups. Group 1, 2 and 3 patients were diagnosed as having periodontitis but group 1 had controlled DM, group 2 had uncontrolled DM and group 3 had no history of DM. Group 4 and 5 patients were diagnosed as having healthy periodontium but group 4 had DM and group 5 had no history of DM. The GCF was collected for 30 seconds with periopaper strips from the deepest pockets of the central incisor, first premolar and first molar from two quadrants of mouth. The volume of absorbed GCF was determined by Periotron 8000 and the crevicular β -glucuronidase activity was colorimetrically determined by a spectrophotometer. There was no statistically significant difference in crevicular β -glucuronidase activities among groups 1, 2 and 3. Mean crevicular β -glucuronidase activities in groups 1, 2 and 3 were $1.58 (\pm 0.69)$, $1.53 (\pm 0.67)$, $1.41 (\pm 0.89)$ unit, respectively. However, groups 1, 2 and 3 had higher β -glucuronidase activity than groups 4 and 5 ($p < 0.05$). Mean crevicular β -glucuronidase activities in groups 4 and 5 were $0.87 (\pm 0.28)$, $0.89 (\pm 0.25)$ unit, respectively. There was no significant difference between groups 4 and 5. The result of this study indicates that diabetes mellitus shows no relationship with periodontitis but activity of β -glucuronidase in periodontitis patients is found to be higher than that of healthy periodontium patients. Activity of β -glucuronidase was shown to be positively correlated with pocket depth, gingival index, clinical attachment level and volume of GCF.

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