

## Saliva Tgfβ1 Level in Patients with Type 2 Diabetes Mellitus and Primary Hypertension on Dental Caries

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**Abstract.** The purpose of this study is to analyze the relationship and differences in salivary Tgfβ1 levels in patients with type 2 diabetes mellitus (T2DM) and primary hypertension (PH) with dental caries patients. Methods: The research design used is a clinical experimental approach. Salivary examination of T2DM and PH patients was carried out by laboratory staff at the Matakali Health Center and assisted by the research team, then continued with the examination of TGFβ1 levels at the microbiology laboratory of Hasanuddin University, Indonesia, which became a research partner. Saliva TGFβ1 levels were measured with a commercial Human TGFβ1 kit ELISA Assaygenie. Sampling using purposive sampling technique. Test analysis with Chi Square and independent sample T-test. The sample size in this study was 60 samples, namely 30 T2DM patients, 30 PH patients aged 18-40 years. Analysis is Chi Square and independent T-test. Results: The results of this study when viewed from the distribution of tooth brushing habits in T2DM patients, namely the frequency of brushing teeth is not good (1x a day) and dental caries is 56.7%, while PH patients are 63.4%. This shows that the frequency of tooth brushing affects the occurrence of dental caries in T2DM and PH patients. Likewise, when viewed from the sex distribution of TD2M in males 60% and females the lowest 40%. Gender distribution in patients with PH & dental caries with the largest proportion of male 53.3% and the lowest female 46.7%. Salivary TGFβ1 levels of patients with T2DM & Caries, PH with dental caries were 577.85 pg/ml (0.042) and 386.3894 pg/ml (0.024). Then continued with testing the effect of TGFβ1 on T2DM and PH patients with dental caries, namely T2DM patients (p. 0.042) and PH patients (p. 0.024). This shows that there is a significant effect between salivary TGFβ1 levels of T2DM and PH patients on dental caries. Likewise, it was found that there was a significant difference between T2DM and PH in dental caries by looking at the average value of salivary TGFβ1 on PH was 386,3894pg/mL while salivary TGFβ1 on T2D was 577,8546pg/mL. It can also be seen from the standard deviation value of T2DM deviation is 173.04621, while HTP is 95.93092. Conclusion: There is associated and difference of Salivary TGFβ1 levels of patients with T2DM and PH at the age of 18-40 years with dental caries. The higher the salivary TGFβ1 level, the higher the risk of dental caries.

**Keyword:** TGFβ1 levels, saliva, type 2 diabetes mellitus, primary hypertension, dental caries.