

Distribution of Subgingival Bacteria in Chronic Periodontitis Patients Correlated with IgA Nephropathy

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SUMMARY

Background: Several studies indicated that chronic periodontitis (CP) and its subgingival bacteria correlated with IgA nephropathy (IgAN). Previous research has shown that prevalence of IgAN in chronic periodontitis patients is significantly higher than that in non CP patients in Xinjiang especially in ethnic Uyghur. The aim of this study is to investigate the distribution of plaque bacterial microbes in CP and IgAN patients and to find correlation between CP and IgAN.

Methods: All of the subgingival plaque samples including 7 healthy controls (N group), 8 CP patients, 14 IgAN patients, and 14 CP with IgAN patients were obtained from ethnic Uyghur people. To investigate the distribution of plaque microbe in Uyghur CP and IgAN patients, the 16s rRNA sequencing and comparative analysis of subgingival bacteria were performed.

Results: There were no statistically differences in the community richness estimator (Chao) and the diversity estimator (Shannon index) among four groups. The abundance of *Burkholderiales* (order), *Ottowia* (genus) in the plaque microbes were significantly higher in CP with IgAN patients than CP patients. The abundance of *Eubacterium* (genus) was significantly higher in CP with IgAN patients than IgAN patients. The abundance of *Veillonella* (genus) was significantly higher while *Streptococcus* (genus), *Tannerella* (genus) were significantly lower in CP patients than healthy volunteers.

Conclusions: The composition and abundance of subgingival plaque microbes in Uyghur CP and IgAN patients were significantly different at several levels. Which suggested that abundance of subgingival bacteria is correlated to CP and IgAN.

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Supplementary Data

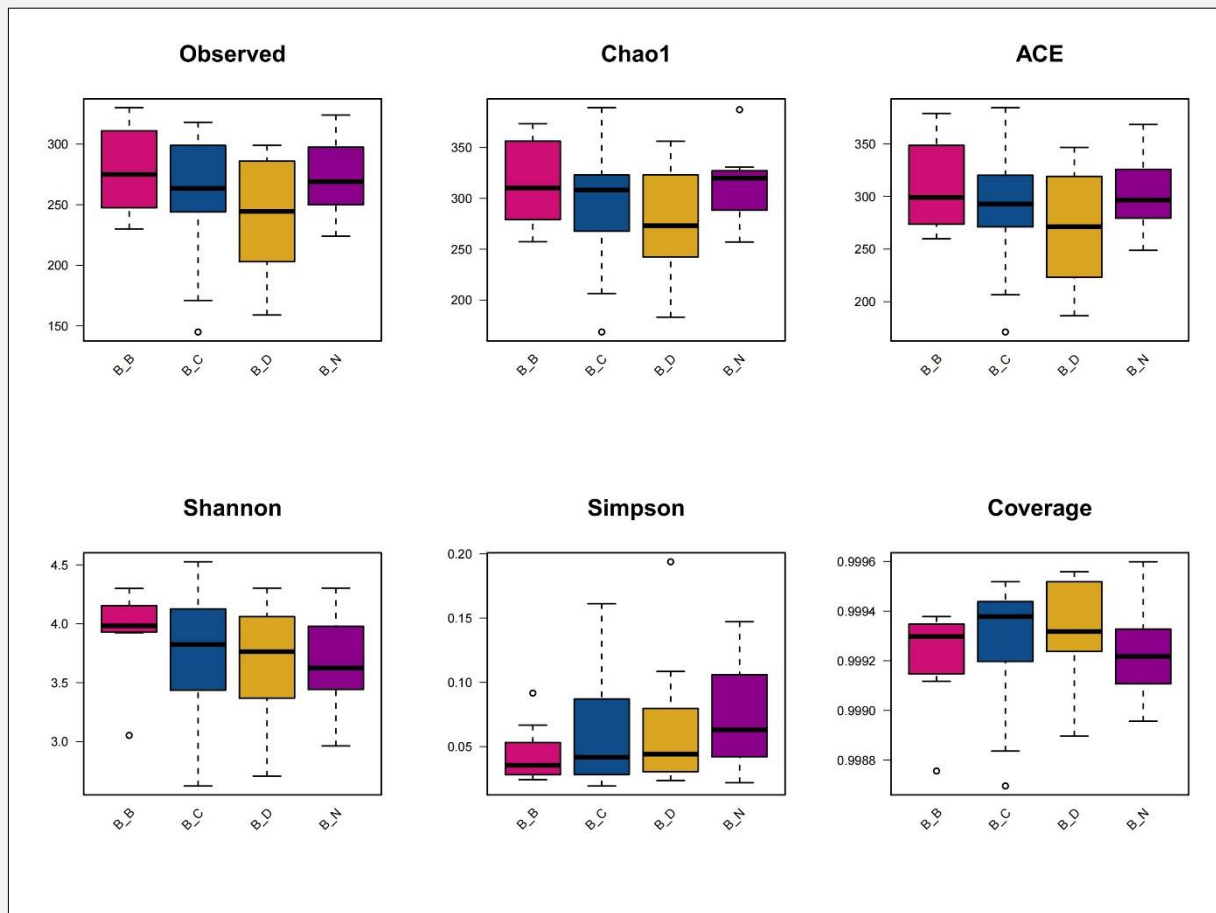


Figure S1. Community richness estimators (Chao) and diversity estimators (Shannon index) of subgingival plaque samples of patients in each group.