## S25-1 Oral bacteria & Periodontal disease -on the basis of the current bacterial flora analysis techniques-

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The population analysis of the bacterial flora had been done with the culture method in past days, and now the genetic approaches are commonly used. Within the genetic approaches, random cloning method following 16S rDNA amplification was widely used by many researchers. However, the methods involved some blindsides, e.g. minor bacterial species ($10^3$ blended in $10^7$ bacterial solutions) could not PCR amplified by using universal primers. Other genetic approaches, such as species-specific PCR, PCR-RFLP、T-RFLP、DNA Microarray、Checkerboard DNA hybridization DGGE、and metagenomics, has been proposed for analysis of the bacterial flora, each method has advantages and disadvantages. There are no methods for covering extensive purpose. I will overview these methods, at the first of my talk.

So many kinds of bacteria, regarded as 500 or 700 species, inhabit the human oral cavity. They would form four independent bacterial flora, i.e., buccal mucosa, dorsal surface of the tongue, tooth surface, and gingival sulcus. Some members of the bacterial flora might be played an important role in the onset of the infections of the mouth, such as dental caries or periodontal disease (gingival inflammation and periodontitis), however the whole aspect has not been cleared. I will introduce some data of our project to clarify the oral flora, including the analysis of minor but diverse bacterial species.