

**Connective Tissue Graft In Treatment Of Multiple Mandibular Class III Gingival Recession Defects –
Prospective Clinical Trial**

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Abstract

Aim

To Quantify The Two Most Prevalent Bacteria Among Type Ii Diabetic Individuals And Controls From The Buccal Mucosal Biofilms Using Molecular Methods.

Materials And Methods

The Sequence Obtained Is Then Surveyed Using BLAST Analysis To Define The Bacterial Flora And Two Bacteria Namely Veillonella And Granulicatella Are Selected For Further Amplification And Quantification By Real-Time PCR To Express The Bacteria In Copy Numbers.

Results

The Collected Buccal Mucosal Biofilm Samples (N=24) Which Was Categorized Into Type II Diabetes (12) And Non-Diabetic (12). The Sequence Subjected To BLAST

Analysis Gave A List Of Bacteria From Which Veillonella Sp. And Granulicatella Sp. Were Selected And Administered To Real-Time PCR For Amplification And Quantification Which Revealed An Increased Bacterial Prevalence In Type II Diabetic Subjects To Non-Diabetic Subjects Which Was Also Proved Statistically.

Conclusion

Based On The Results Obtained There Is A Significant Prevalence Of Bacterial Content In Type Ii Diabetic Subjects Compared To Non-Diabetic Subjects.

Keywords

16srRNA, Veillonella, Granulicatella, Type Ii Diabetes.

Introduction

The Bacterial Microbes Are Site-Specific Relating To The Vast Surfaces Present In The Oral Cavity, Coated

With A Plethora Of Bacteria, The Customary Of Bacterial Biofilm, Whereas The Bacteria Veillonella And Granulicatella Are Most Commonly Evidenced Bacterial Microbe Present In All Sites Of The Oral Cavity. Hence These Both Bacteria Were Selected For Our Study[2]. In

Materials And Methods

Selection Criteria

The Gums Were Selected. Subjects With Caries On The Teeth Were Excluded Based On Their DMFT Index. The Subjects Under Any Other Drugs Except Antidiabetic Medications For The Last 6 Months Are Excluded In This Study.

Amplification And Quantitation Of Veillonella And Granulicatella By Real-Time PCR

To Identify The Quantitative Presence Of The Above Two Bacteria (Table 2 & Table 3), The DNA Samples Obtained From The Patients Were Subjected To Real-Time PCR Analysis To Determine Their Quantitative Presence. 2ng Of Total DNA Was Subjected To Polymerase Chain Reaction (PCR) Amplification With Species-Specific Primers In Rotor Gene Q Real-Time PCR Unit. The Following Set Of Primers That Are Present Within The 16S Rrna Gene Were Used For Each Of The Species:

Statistical Analysis

The Result Shows Us A Significant Increase In Bacterial Content Of Type II Diabetic Subjects Oral Cavity In Comparison To Non-Diabetic Subjects With A P-Value <0.05.

Sequence Analysis

The Presence Of Granulicatella In Most Of The Uncontrolled Diabetic Samples. One Sample Showed Veillonella As The Top Hit Followed By Granulicatella During Data Analysis. The One Control Sample Showed

None Of The Above Two Bacteria But Had Mostly Streptococcus Species.

Real-Time PCR Analysis

The Average Of Indicated Copy Numbers For Each Of The Bacteria. This Showed Veillonella To Be Present 3.5 Fold More In The Diabetes Samples Than The Controls, While Granulicatella Was Present 1.5 Fold More In The Diabetes Samples Than Controls.

Discussion

J. Michael Janda and Sharon L. Abbott in their literature showed that the exposed taxa are directly in debt to ease the role of 16S rRNA gene sequence disputed to the more incommensurable administration of DNA-DNA hybridization investigations. DNA-DNA hybridization is the emphatically gold standard for recommended unfamiliar species and for the precise stint of a strain with obscure properties to correct taxonomic unit[5].

Conclusion

The study demonstrates the efficacy of metagenomic analysis of 16S rRNA for defining the bacterial flora and also adding on to the previous kinds of literature, projects the abundance of bacterial quantity in Type II Diabetic subjects to non-diabetic subjects with statistical correlation. It is fundamental to have a thorough knowledge on the bacterial diversity, the impact of diabetes on periodontal and vice-versa, for executing appropriate management of oral infections in diabetic patients with specific antibiotic therapy to avert antibiotic resistance, an upcoming global treat.

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