Analisis Kuantitas Antigen Streptococcus mutans Serotipe c dan Candida albicans dari Plak Gigi dengan OHIS dan dmft pada Pasien ECC dan S-ECC = Analysis of Streptococcus mutans Serotype c and Candida albicans antigen quantity from Dental Plaque with OHIS and dmft in ECC and S-ECC Patients

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Abstrak

Latar Belakang: Early Childhood Caries (ECC) adalah karies yang menyerang anak-anak pada umur dibawah 71 bulan, sedangkan Severe – Early Childhood Caries (S-ECC) adalah ECC yang keparahannya ekstensif. Salah satu faktor utama terjadinya ECC adalah bakteri Streptococcus mutans dan progresitifitas dari ECC dapat didukung oleh adanya jamur Candida albicans, tetapi hubungan antara Streptococcus mutans, Candida albicans, dan tingkat karies masih dipertanyakan. Tujuan: Mengetahui kuantitas dan hubungan antara antigen Streptococcus mutans serotipe c dan Candida albicans dari plak gigi yang dikorelasikan dengan OHI-S dan dmft pada pasien ECC dan S-ECC. Metode: Kuantitas antigen Streptococcus mutans serotipe c dan Candida albicans dari 37 sampel plak gigi pasien ECC dan S-ECC diukur menggunakan metode ELISA. Nilai optical density dideteksi pada panjang gelombang 450 nm kemudian dikorelasikan dengan OHI-S dan kategori ECC serta S-ECC. Hasil: Analisis statistik dengan menggunakan uji Mann – Whitney untuk menguji perbedaan kuantitas Streptococcus mutans serotipe c pada kelompok sampel ECC dan S-ECC didapatkan nilai p=0,424. Sedangkan uji Independent T test untuk menguji perbedaan kuantitas Candida albicans pada kelompok sampel ECC dan S-ECC didapatkan nilai p=0,535. Selanjutnya dilakukan pengujian Mann Whitney untuk menganalisis perbedaan kuantitas Streptococcus mutans serotipe c pada kelompok sampel OHI-S sedang dan OHI-S baik dan didapatkan nilai p=0,070. Untuk menguji kuantitas Candida albicans pada kelompok sampel OHI-S sedang dan OHI-S baik menggunakan uji independent T test didapatkan nilai p=0,353. Hasil analisis uji korelasi Spearman antara kuantitas antigen Streptococcus mutans serotipe c dan Candida albicans pada kategori ECC didapatkan hasil korelasi linier negatif kuat (r=-0,900 ; p=0,037). Serta hasil analisis uji korelasi Pearson antara kuantitas antigen Streptococcus mutans serotipe c dan Candida albicans pada kategori S-ECC didapatkan hasil kecenderungan korelasi linier positif lemah (r=0,018 ; p=0,923). Kesimpulan: Tidak terdapat perbedaan bermakna antara kuantitas Streptococcus mutans serotipe c dan Candida albicans yang diambil dari plak gigi pasien ECC dan S-ECC serta pada beberapa derajat OHIS dan terdapat hubungan antara antigen Streptococcus mutans serotipe c dan Candida albicans dari plak gigi ECC dan S-ECC.
.....Background: Childhood Caries (ECC) is caries that attacks children under the age of 71 months, while Severe - Early Childhood Caries (S-ECC) is an ECC of extensive severity. One of the main factors of ECC is the Streptococcus mutans and the progression of ECC can be supported by the presence of the Candida albicans, but the relationship between Streptococcus mutans, Candida albicans, and ECC is still questionable. Objective: To determine the quantity and relationship between Streptococcus mutans serotype c and Candida albicans antigens from dental plaque correlated with OHI-S and dmft in ECC and S-ECC patients. Methods: The quantity of Streptococcus mutans antigens serotype c and Candida albicans from 37 dental plaque samples of ECC and S-ECC patients were measured using the ELISA method. Optical density

values were detected at a wavelength of 450 nm and then correlated with OHI-S and ECC and S-ECC categories. Results: Statistical analysis using the Mann-Whitney test to test differences in the quantity of Streptococcus mutans serotype c in the ECC and S-ECC sample groups showed a value of p = 0.424. While the Independent T test to test differences in the quantity of Candida albicans in the ECC and S-ECC sample groups obtained p = 0.535. Mann Whitney test was then performed to see differences in the quantity of Streptococcus mutans serotype c in the moderate OHI-S and good OHI-S sample groups and obtained p = 0.070. To test the quantity of Candida albicans in the moderate OHI-S and good OHI-S sample groups both using the independent T test, p = 0.353 was obtained. Spearman correlation test analysis results between the quantity of Streptococcus mutans serotype c and Candida albicans antigens in the ECC category showed strong negative linear correlation results (r = -0,900; p = 0.037). And the results of the Pearson correlation test analysis between the quantity of Streptococcus mutans serotype c and Candida albicans antigens in the S-ECC category showed a positive weak linear correlation trend (r = 0.018; p = 0.923). Conclusion: There was no significant difference between the quantity of Streptococcus mutans serotype c and Candida albicans taken from the dental plaque of ECC and S-ECC patients and to some degree of OHIS and there was a relationship between Streptococcus mutans serotype c antigens and Candida albicans from ECC dental plaque and S-ECC.