

Aspartate aminotransferase activity after gargling with Green tea and chlorhexidine gluconate

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Abstrak

Aktifitas aspartat amino transferase setelah berkumur dengan teh hijau dan klorheksidin glukonat. Perawatan ortodontik dapat meningkatkan akumulasi plak gigi. Plak dapat menyebabkan peradangan pada gingiva. Peradangan dapat dinilai dari kadar aspartat aminotransferase (AST) dalam cairan krevicular gingiva (CKG). Kumur bermanfaat untuk mengurangi akumulasi plak gigi selama perawatan ortodontik. Klorheksidin glukonat sering digunakan sebagai obat kumur. Teh hijau adalah salah satu bahan alam yang dapat digunakan untuk obat kumur yang dianggap dapat mengurangi akumulasi plak. Tujuan: Membandingkan efek antara teh hijau dan klorheksidin glukonat aktivitas AST di GCF pada pasien yang menjalani perawatan ortodontik dengan molar band. Metode: Studi eksperimental dilakukan terhadap 40 subjek dewasa. Subjek dibagi secara acak menjadi dua kelompok: teh hijau (n=20) dan klorheksidin glukonat (n=20). Aktivitas AST diukur sebelum pemasangan band, 7 dan 30 hari setelah pemasangan band. Uji ANOVA digunakan untuk menganalisis data. Hasil: Terdapat perbedaan signifikan antara kadar AST sebelum, 7 dan 30 hari setelah pemasangan band pada kelompok teh hijau ($p < 0,05$). Tidak ada perbedaan yang signifikan antara kadar AST sebelum pemasangan band, 7 dan 30 hari setelah pemasangan band pada kelompok klorheksidin glukonat ($p < 0,049$). Tidak ada perbedaan antara masing-masing kelompok ($p < 0,05$). Simpulan: Obat kumur teh hijau memiliki efektivitas yang sama dengan klorheksidin glukonat dalam mengurangi tingkat AST pada pasien ortodontik.

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Patients undergoing fixed orthodontic treatment are susceptible to dental plaque accumulation. Plaque can cause inflammation in gingiva. It could be assessed by aspartat aminotransferase (AST) in gingival crevicular fluid (GCF). Mouth rinse could be useful to reduce dental plaque accumulation during orthodontic treatment. Chlorhexidine gluconate is often used as mouth rinse in dental practice. On the other hand, green tea is one of natural ingredient that can be used for mouth rinse which is assumed could reduce plaque accumulation. Objectives: To compare the effect between green tea and chlorhexidine gluconate on AST activity in GCF in patient undergoing orthodontic treatment with molar band. Methods: An experimental study was conducted included forty adult subjects. They were randomized into two groups: green tea (n=20) and chlorhexidine gluconate (n=20). AST activity was measured before band insertion, 7 and 30 days after band insertion. One way and two-ways ANOVA were used to analyze the data. Results: The results showed significant difference of AST levels between before, 7 and 30 days after band insertion in the green tea groups ($p < 0.05$). In contrast, there was no significant differences of AST levels between before band insertion, 7 and 30 days after band insertion in the chlorhexidine gluconate groups ($p = 0.049$). There were no difference between each groups with two way ANOVA ($p < 0.05$). Conclusions: Gargle effect of green tea was as effective as chlorhexidine gluconate in reducing AST levels related to banded first molars in adolescents undergoing orthodontic treatment.