

An Innovative Non-Invasive Method To Improve The Stability Of Orthodontic Implants: A Pilot Study

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Abstract : Background: Successful orthodontic treatment has always relied on anchorage. The stability of the implants depends on bone quantity, mini-implant design, and placement conditions. Out of the various methods of gaining stability, Platelet concentrations are gaining popularity for various reasons. PRF is a minimally invasive method, and there are various studies that has shown its role in enhancing the stability of general implants. However, there is no literature found regarding the effect of PRF in enhancing the stability of the orthodontic implant. Therefore, this study aimed to evaluate and assess the efficacy of PRF on the stability of the orthodontic implant. Methods: The study comprised of 9 subjects aged above 18 years of age. The split mouth technique was used; Group A (where implants were coated before insertion) and group B (implant were normally inserted). The stability of the implant was measured using resonance frequency analysis at insertion (T0), 24 hours (T1), 2 weeks (T2), at 4 weeks (T3), at 6 weeks (T4), and 8 weeks (T5) after insertion. Result: Statistically significant findings were found when group A was compared to group B using ANOVA test ($p < 0.05$). The stability of the implant of group A at each time interval was greater than group B. The implant stability was high at T0 and reduces at T2, and increasing through T3 to T5. The stability was highest at T5. Conclusion: A chairside, minimally invasive procedure of PRF coating on implants have shown promising results in improving the stability of orthodontic implants and providing scope for future studies.

Keywords : Orthodontic implants, stability, resonance Frequency Analysis, pre

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