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Micro-osteoperforation and the rate of orthodontic tooth movement: Systematic review and meta-analysis

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The development of minimally invasive strategies, together with Micro-osteoperforations (MOPs), has made improved orthodontics more acceptable. While a few research about the effect of MOPs on RTM showed positive effects, other studies have proven no huge medical variations. These days, systematic evaluations about the effectiveness of MOPs had opposite conclusions. Aim: This work aims to determine the efficacy of Micro-Osteoperforation (MOP) on the rate of tooth movement in patients undergoing orthodontic treatment. Literature Review: A systematic search was performed over different medical databases to identify dentistry studies, which studied the outcome of the MOP group versus the control group of patients undergoing orthodontic treatment. We conducted a meta-analysis process on the rate of tooth movement as the main primary outcome. Eight studies were identified involving 496 patients, with 238 patients in the MOP group, and 258 patients in the Control group. Our meta-

analysis process showed a highly significant increase in mean distance of tooth movement in the MOP group compared to the control group ($p < 0.001$). Conclusion: To conclude, the rate of orthodontic tooth movement can be accelerated by the MOP technique with frequently repeated MOPs throughout the treatment. The MOP procedure was effective in accelerating orthodontic tooth movement. An increase in the number of MOPs resulted in a significant acceleration of the canine retraction.

Speaker Biography

Albandri Bander Alferm has completed her Bachelor degree of dentistry from King Saud University and advanced general dentistry at the age of 27 years from southern California University, USA. She had completed the Saudi Board in restorative dentistry she is a Consultant in Restorative department and the GP and Intern Supervisor, PSMMC. .

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