WILCKO-PERIO, Periodontally Accelerated Orthodontics

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Abstract : Aim: Synergism between periodontists and orthodontists (periodontal accelerated osteogenic orthodontics- PAOO) creates crucial opportunities to enhance clinical outcomes of combined therapies regarding both disciplines and has made adult orthodontics a reality. Thus, understanding the biomechanics of bone remodelling may increase the clinical applications of corticotomy facilitated orthodontics with or without alveolar augmentation. Wilckodontics can be an attractive treatment option and be a “win-win” situation for both the dental surgeon and patient by reducing the orthodontic treatment time in adults. Materials and methods: In this review, data related to the clinical aspects, steps of procedure, biomechanics of bone, indications and contraindications and final outcome of wilckodontic shall be discussed. 50 supporting articles from various international journals and 70 clinical cases were reviewed to get a better understanding to design this wilckodontic - meta analysis. Various journals like the Journal Of Clinical And Diagnostic Research, Journal Of Indian Society Of Periodontology, Journal Of Periodontology, Pubmed, Boston Orthodontic University Journal, Good Practice Orthodontics Volume 2, have been referred to attain valuable information on wilckodontics which was then compiled in this single review study. Result: As a promising adjuvant technique based on the transient nature of demineralization-remineralisation process in healthy tissues, wilckodontics consists of regional acceleratory phenomenon by alveolar corticotomy and bone grafting of labial and palatal/lingual surfaces, followed by orthodontic force. The surgical wounding of alveolar bone potentiates tissue reorganization and healing by a way of transient burst of localized hard and soft tissue remodelling.This phenomenon causes bone healing to occur 10-50 times faster than normal bone turnover. Conclusion: This meta analysis helps understanding that the biomechanics of bone remodelling may increase the clinical applications of corticotomy facilitated orthodontics with or without alveolar augmentation. The main benefits being reduced orthodontic treatment time, increased bone volume and post-orthodontic stability.

Keywords : periodontal osteogenic accelerated orthodontics, alveolar corticotomy, bone augmentation, win-win situation
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