

Adjunctive orthodontic intrusion of pathologically migrated incisors in periodontitis patients

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Objective: This study aimed to investigate the clinical effects of adjunctive orthodontic intrusion of pathologically migrated incisors in adults with periodontitis. Methods: 23 well maintained Chinese adults with treated periodontitis were recruited. 28 maxillary incisors as test teeth, together with 55 sites next to intruded roots were investigated. A light orthodontic intrusive force, using splinted posterior teeth as anchors, was applied. Clinical and radiographic data were collected before and after orthodontic intrusion. Results: On a full-mouth basis, plaque control could be maintained in an acceptable level with no change of percentage of bleeding on probing. There were no clinically significant changes in probing pocket depth and probing attachment level (PAL). For test teeth, significant clinical improvements were observed: 0.6 ± 1.5 mm gain of PAL, 0.8 ± 1.1 mm reduction of gingival recession and 0.7 ± 0.6 mm reduction of clinical crown length ($p < 0.05$). For radiographic data, no significant changes in alveolar bone level were observed, however, various bony morphology changes were found. Detectable mild apical root resorption of 0.8 ± 0.8 mm ($p < 0.05$) occurred after the intrusion. Conclusions: Adjunctive orthodontic intrusion on pathologically migrated incisors could improve periodontal conditions through significant gain of probing attachment level and reduction of gingival recession. Various alterations in bone morphology were observed reflecting adaptive bone remodelling following orthodontic intrusion.

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