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Case report

Non-surgical correction of an adult Class II high-angle with occlusal plane cant by four compromised permanent first molars extraction, preadjusted lingual appliance and miniscrews: A case report

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Summary

This case report describes a complex full-step asymmetrical Class II division 1 high-angle in an adult patient treated by extraction of compromised first molars with a preadjusted lingual appliance. Since the patient presented severe sagittal and vertical discrepancies combined with an Izard orthofrontal profile with upper lip protrusion, an extraction camouflage was performed with the twofold aim of obtaining ideal occlusal relationship and profile improvement, correcting occlusal plane cant by selective intrusion with interradicular miniscrews. Appropriate biomechanical strategies, including extraction choice and anchorage control during space closure, were needed to achieve the planned results. This case report demonstrates the possibility of solving successfully severe sagittal and vertical discrepancies with significant asymmetric component in adult patient without surgical treatment by means of a completely invisible technique, with the extraction of the most compromised teeth in both arches. This report also underlines the need for careful planning during both diagnostic and treatment phases, with appropriate skeletal anchorage management, in order to obtain the best results.

Introduction

Treatment option for full-step Class II high-angle malocclusion correction without surgery usually includes four permanent teeth extractions in order to compensate the sagittal discrepancy [1,2]. An appropriate vertical control is needed in order to allow successful case resolution [3]. However, the correction is even more complex when there is a significant asymmetry with occlusal plane cant.

The choice of the teeth to be extracted is related to the anchorage need [4–6], periodontal and dental condition (teeth with poor prognosis) [7–10] and Bolton index [11–13]. The extraction of first molars has been recommended in cases with extensive

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