

NON-INVASIVE AESTHETIC MANAGEMENT OF TOOTH TRANSPOSITION USING INJECTION MOULDING



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INTRODUCTION

A transposition is a rare dental occurrence involving a change in position of two teeth in the same quadrant leading to an abnormal position in the dental arch.

OBJECTIVE

This clinical case series reports a non-invasive treatment of complex canine transposition using injection moulding to obtain a predictable aesthetic outcome.

MATERIALS AND METHODS

Injection moulding technique that is purely additive using G-aenial flow to translate the restorative plan from wax-up to final restoration without hard tissue reduction.

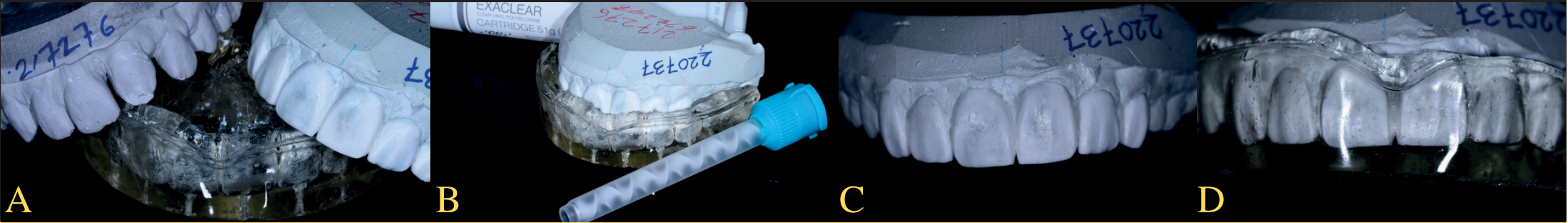


Fig A-D : Wax up of the transposed canine to central/lateral incisor; prepared transparent silicone index for injection moulding

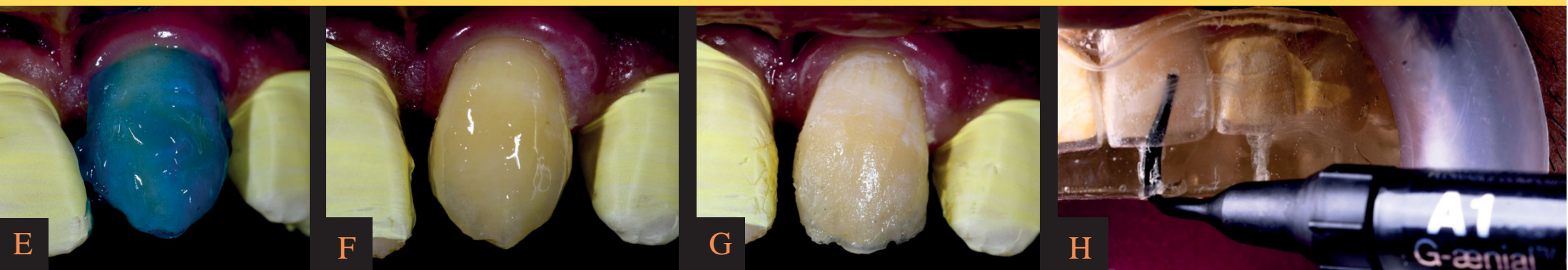


Fig E-H : Before adhesive surface preparation, each tooth was separated using sterilised teflon tape on adjacent teeth. The tooth was etched using 37.5% phosphoric acid gel for 30 seconds, followed by application of a universal adhesive (G-Premio bond), air dried for 5 secs and cured for 20 seconds, followed by injection of flowable composite (G-aenial Universal Flo)

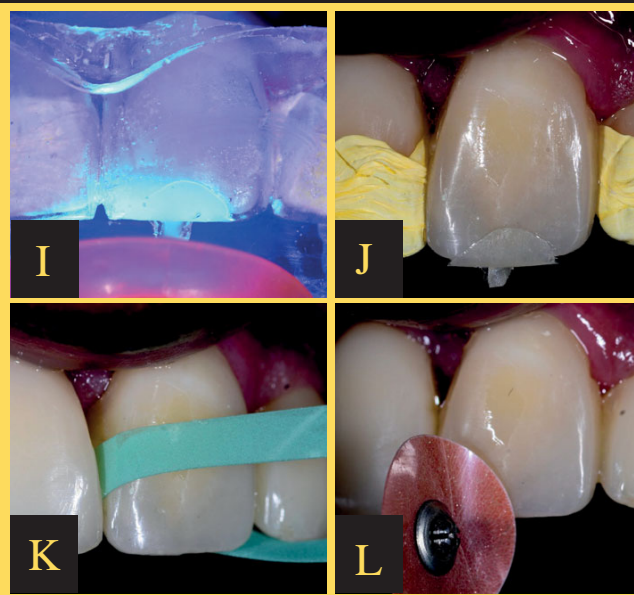


Fig I-L: The resin composite was cured through the clear silicone matrix. The incisal polymer sprue was removed with a 12 fluted bur. Sequential finishing protocol was followed using finishing strips and Soflex discs.

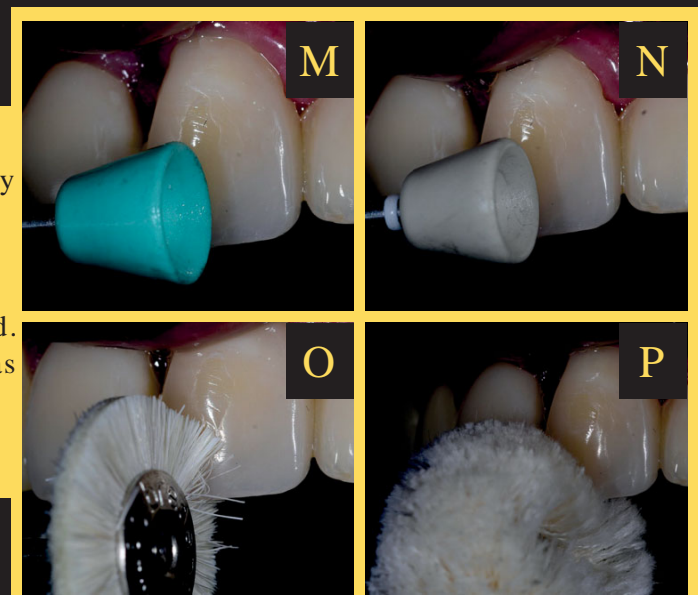


Fig M-P: The polishing protocol was followed by diamond impregnated cups. A goat hair wheel brush with diamond polishing paste was used, and a dry cotton buff was used to achieve a high surface gloss

TRANSPOSITION OF THE MAJESTIC TOOTH

CASE 1

CANINE TRANSPOSITION WITH CENTRAL INCISOR
(Mx.C to 11)

Pre-treatment

Post-treatment



THE FIVE MAXILLARY TRANSPOSITION TYPES

1. Canine - First premolar (Mx.C.P1) - 71%
2. Canine - Lateral incisor (Mx.C.12) - 20%
3. Canine - First molar site (Mx.C to M1) - 4%
4. Lateral incisor - Central incisor (Mx.12.11) - 3%
5. Canine - Central incisor site (Mx.C to 11) - 2%

Often associated with hypodontia, peg-shaped laterals, severe rotations, and malpositions

ETIOLOGY

(for Mx.C to 11 and Mx.C.12)

Adventitious, possible genetic role, simulated canine drift

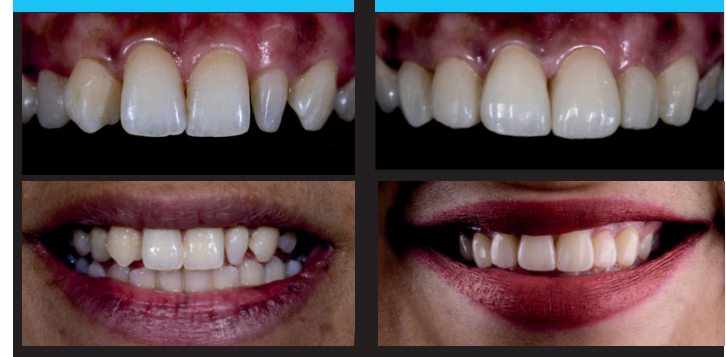
Classification of maxillary tooth transpositions, Peck and Peck
 AM J ORTHOD DENTOFAC ORTHOP 1995;107:505-17

CASE 2

CANINE TRANSPOSITION WITH LATERAL INCISOR
(Mx.C.12)

Pre-treatment

Post-treatment



RESULTS

Injection moulding technique is a biocopy of the natural tooth, providing an easy, non-invasive and predictable approach to plan restorations in challenging scenarios with complex morphology

DISCUSSION AND CONCLUSIONS

Through proper case selection and workflow, stable and predictable results can be achieved using layered injection molding technique, to improve optical properties like translucency and internal anatomic form while providing excellent function and esthetics

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