

NON-INVASIVE AESTHETIC MANAGEMENT OF TOOTH TRANSPOSITION USING INJECTION MOLDING

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OBJECTIVE

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

TREATMENT PLAN

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

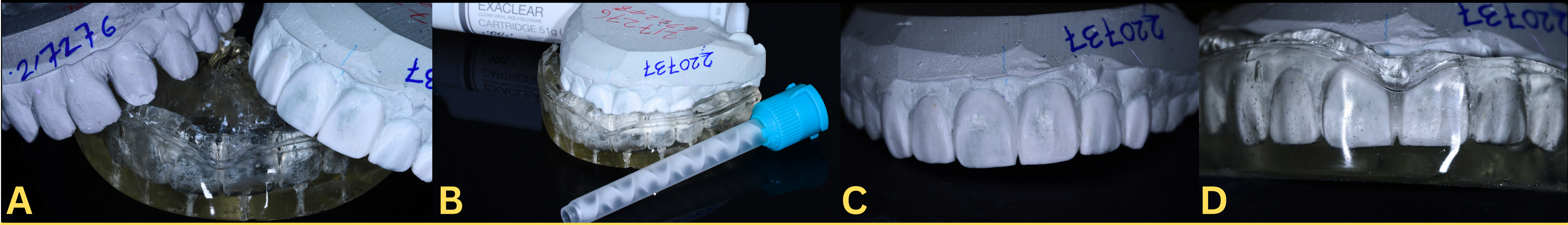


Fig A-D : Wax up of the transposed canine to central/lateral incisor; prepared transparent silicone index for injection molding



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

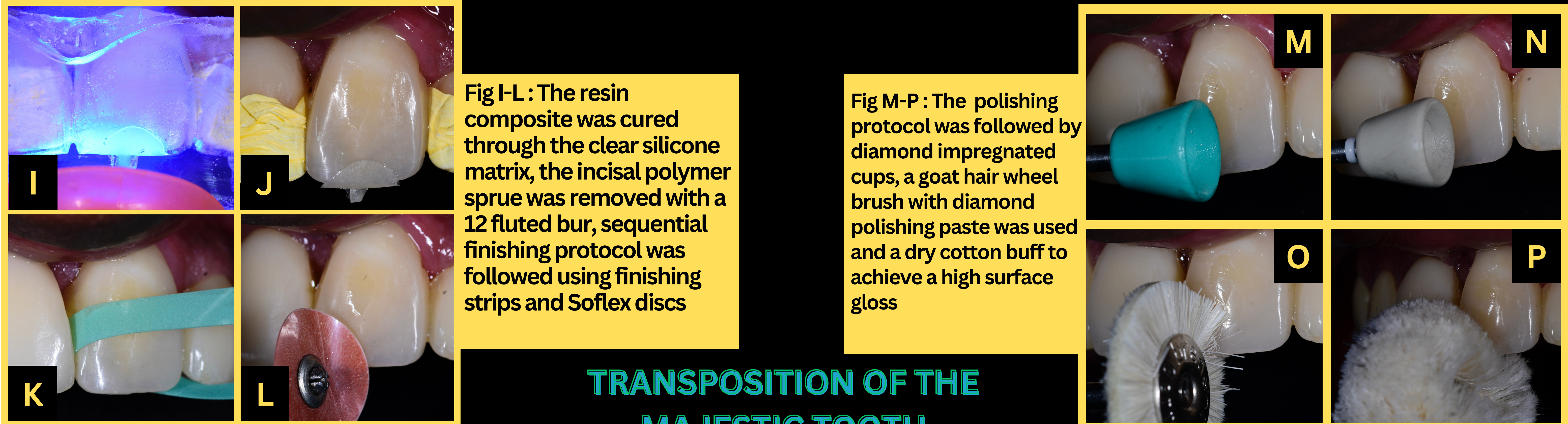


Fig I-L : The resin composite was cured through the clear silicone matrix, the incisal polymer sprue was removed with a 12 fluted bur, sequential finishing protocol was followed using finishing strips and Soflex discs

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 to achieve a high surface gloss

TRANSPOSITION OF THE MAJESTIC TOOTH

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 1

CANINE TRANSPOSITION WITH CENTRAL INCISOR

(Mx.C to 11)

Pre-treatment

Post-treatment



CASE 2

CANINE TRANSPOSITION WITH LATERAL INCISOR

(Mx.C.12)

Pre-treatment

Post-treatment



RESULTS

Injection molding 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

CONCLUSION

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