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EFFECTIVENESS OF F22 ALIGNER IN CORRECTING SEVERE TOOTH ROTATION: A CASE REPORT

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AIM: The present adult patient case report shows the effectiveness of the F22 aligners in correcting severe dental rotations and crowding.

INTRODUCTION: Despite their growing popularity, gaps exist around the biomechanical limits of clear aligners. According to literature, clear aligner is not effective in controlling rotation of rounded teeth in particular.



Pre treatment records

DIAGNOSIS: A 29-year-old male presents skeletal Class III and molar and canine Class I with hyperdivergent pattern, deviation of the lower midline and severe crowding and rotation. In particular, the element 22 presents a rotation of -50° . Upper arch presents contraction and asymmetry highlighting triangular arch form.

VARIABLE	VALUE	Ref. Value
SNA *	79.2	82.0
SNB *	74.9	80.0
ANB *	4.3	2.0
A-Na Perp (mm)	-2.3	0.0
Pg-Na-Perp (mm)	-13.5	-4.0
Wits (mm)	-3.8	0.0
FMA *	31.0	26.0
MP-SN *	39.8	33.0
Palatal-Mand Angle *	31.5	28.0
PP-OP *	18.8	10.0
Mand Plane to Occ Plane *	12.6	18.6
MxOP-Na Perp *	108.3	95.0
U1-APo (mm)	5.9	6.0
L1-APo (mm)	2.0	2.0
U1-Palatal Plane *	102.7	110.0
U1-Occ Plane *	58.4	59.0
L1-Occ Plane *	80.5	72.0
IMPA *	86.9	95.0

GOALS OF TREATMENT: Correction of crowding and rotations in both arches.

TREATMENT OPTIONS: The F22 system was employed to correct the malocclusion. IPR was planned to solve dental malposition and buccal and lingual attachments were placed to improve the predictability of the movements. Furthermore, divots were placed on element 22. A maximum rotation of 2° was applied per aligner. Were programmed 20 upper and 20 lower clear aligners. The aligners were changes every 14 days.

TREATMENT PROGRESS: After initial alignment, further 12 upper and 12 lower clear aligners were programmed to improve dental alignment.

RESULTS AND DISCUSSION: The treatment goals were achieved after 17 months of active aligner therapy. The treatment resulted to be stable after 7 months.



Aesthetics of F22 aligners

Pretreatment cephalometriyc analysis



Post treatment records



F22 prescription sheet

CONCLUSION: The F22 system can be a useful appliance to correct a dental malocclusion involving severe rotations.