

PP17: ORTHODONTIC MANAGEMENT OF SKELETAL CLASS II MALOCCLUSION WITH THE INVISALIGN MANDIBULAR ADVANCEMENT FEATURE APPLIANCE: A CASE REPORT.

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AIM: The purpose of this case report is to present the treatment of skeletal class II malocclusion due to mandibular retrognathia with the Invisalign Mandibular Advancement Feature (IMAF) Appliance, which is new to clinical practice.

CASE: A 12 year old male patient
Main concern: "Prominent teeth"
No significant medical history
Diagnostic findings: Convex facial profile, short anterior lower face height, midline deviation of the maxilla, the mandible and the chin to the right. Permanent dentition, upper arch crowding and a Class II, division 1 malocclusion with a deep bite.

Cephalometric analysis showed a skeletal Class II antero-posterior discrepancy due to mandibular retrognathia. ANB: 5° (SNA: 82.3°, SNB: 77.3°), FH-NPog: 84.7°, L1-MP: 95.2°.



MATERIALS AND METHODS:

Since the patient was in active growth stage, growth modification with the IMAF appliance was planned.

1st phase: A set of 16 clear aligners that were changed weekly for 4 months, in order to align and level the dental arches and expand the upper dental arch.

Mandibular advancement (MA) phase: Two "bite jump" mandibular advancements of 3.3 mm increments each. The aligners were changed weekly and each "bite jump" was achieved by 14 aligners. This phase lasted 7 months.

Stabilization phase: 1 month with a set of 3 aligners which had precision wings but were not programmed to produce any further mandibular advancement.

After the MA phase, the class II relationship was corrected, the facial profile was improved and the mandible was advanced. A posterior open bite appeared in the area of the teeth beneath the precision wings.

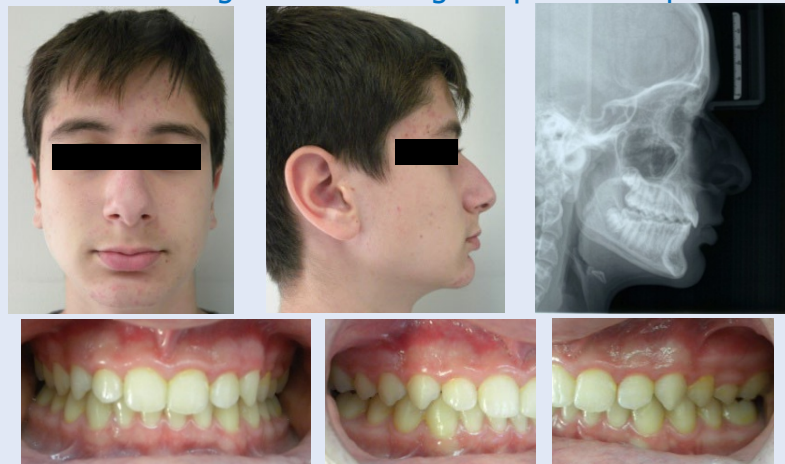
Final phase: Patient was re-scanned and a set of 26 aligners in combination with Class II elastics were used in a 7 month period for detailing and correcting the posterior open bite.



The Invisalign Mandibular Advancement Feature Appliance in place

RESULTS:

- Significant improvement in the patient's profile and facial esthetics.
- The overjet and overbite were corrected with a Class I canine relationship and a super Class I molar relationship.
- The dental and facial midlines were in alignment.
- No proclination of the lower incisors
- Final cephalometric values:
ANB: 3.4° (SNA: 79.8°, SNB: 76.4°),
FH-NPog: 85.4°, L1-MP: 86.2°.



CONCLUSIONS: The IMAF appliance appears to be successful in the treatment of Class II malocclusion with mandibular retrognathism in a growing patient. As with all functional appliances, the correction of the malocclusion is a result of both skeletal and dental effects and the IMAF appliance presents the advantage of producing less proclination of the lower incisors compared to other functional appliances.