

Clear Aligners for a Patient with CATCH 22 Syndrome



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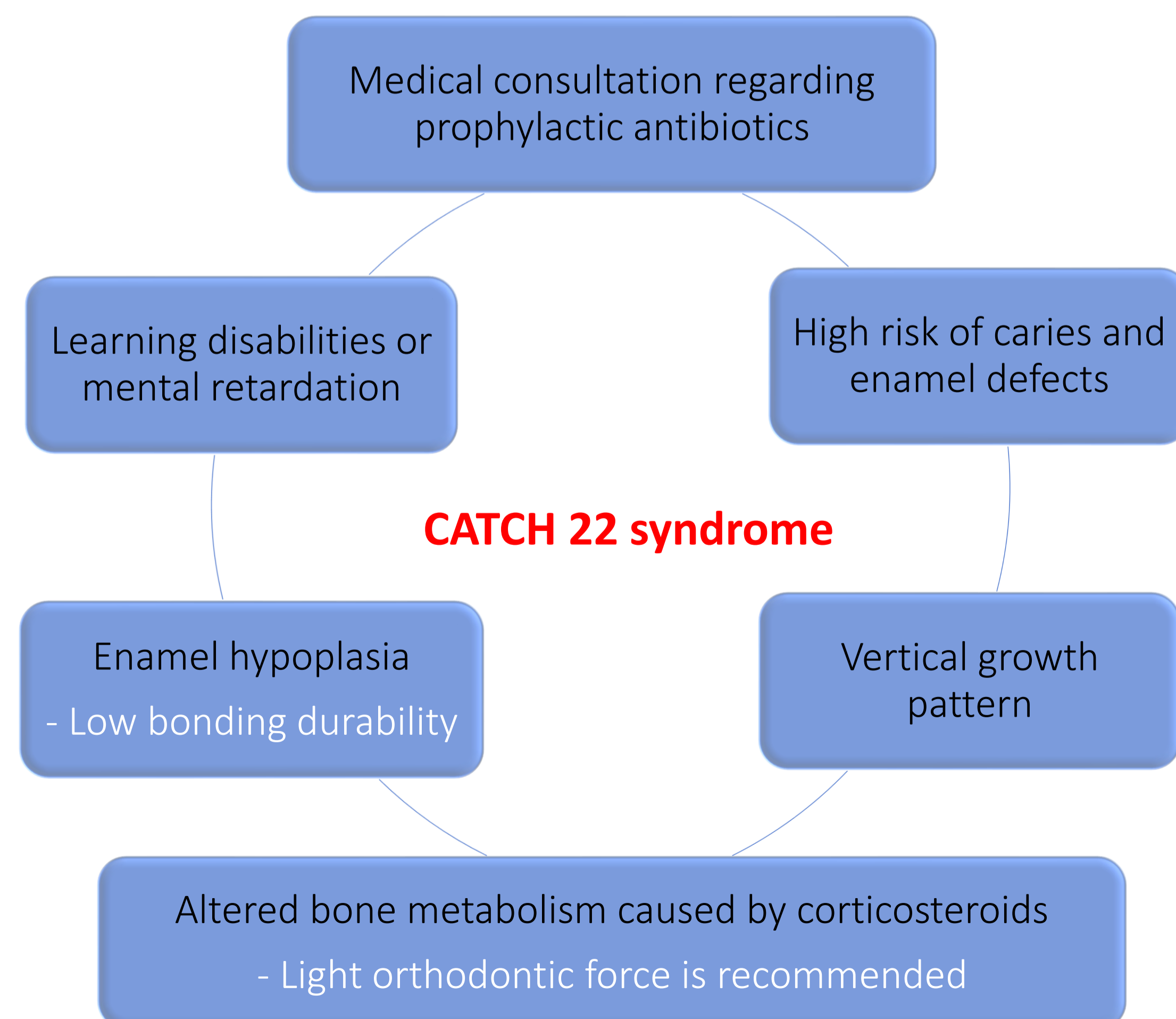
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Introduction

- ✎ **CATCH 22 syndrome** is an autosomal dominant genetic disease.
 - **C** : Cardiac malformation
 - **A** : Abnormal faces
 - **T** : Thymic hypoplasia, T cell abnormality
 - **C** : Cleft lip and palate
 - **H** : Hypocalcemia
 - **22** : Microdeletion of chromosome 22q11
- ✎ According to clinical findings, it can be classified into DiGeorge syndrome, Velocardiofacial syndrome(Shprintzen syndrome), Conotruncal anomaly face syndrome and Takao syndrome.
- ✎ There is no definitive treatment for CATCH 22 syndrome. However, depending on the symptoms, surgeries, speech therapy, physical therapy, regular medical care, special education, and psychiatric counseling can be implemented.

Article review

Considerations for orthodontic management



Hamad et al. (2019)

Case

F / 10Y 8M

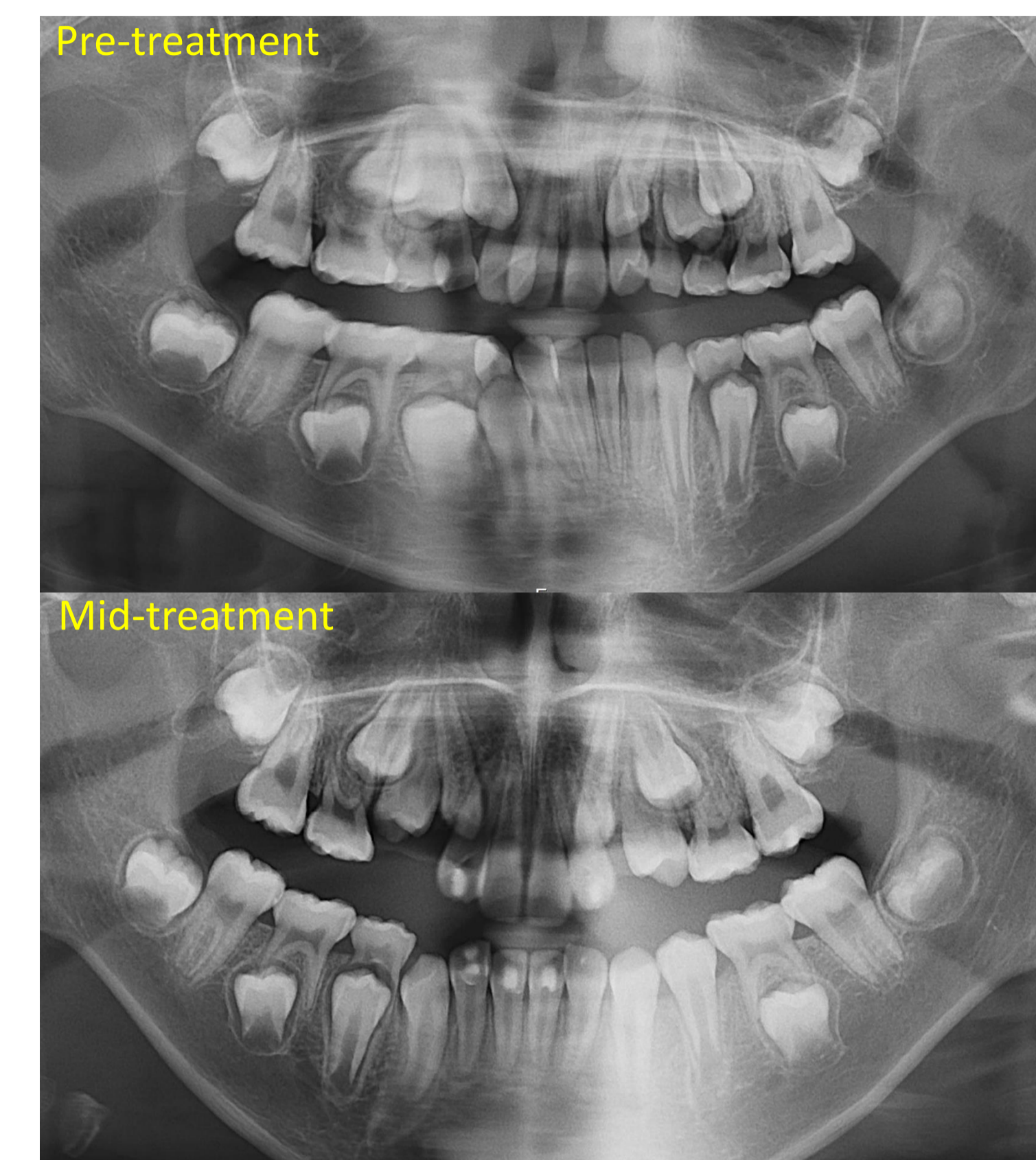
Past Medical History

- **CATCH 22 syndrome**
 - 1) Microdeletion of chromosome 22q11
 - 2) Congenital cardiac malformation
 - 3) Hypocalcemia
 - 4) Hypothyroidism
- Asplenia
- Cerebral infarction
- Dysmorphic face & growth retardation

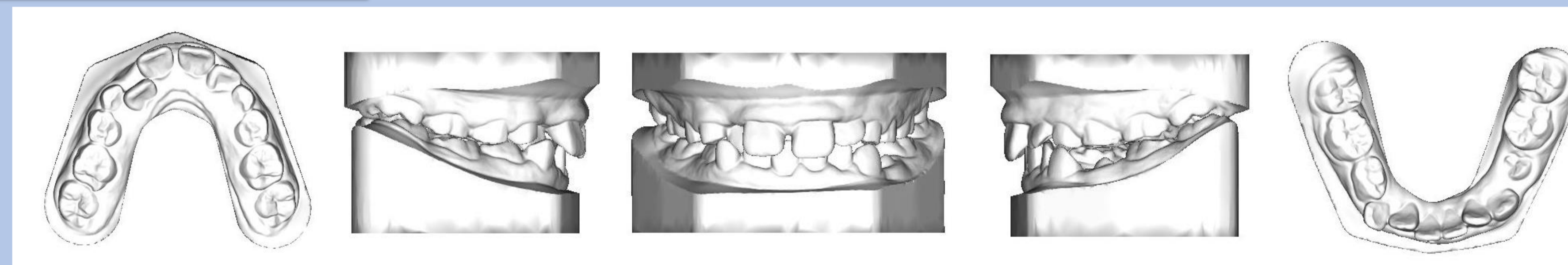
Past Dental History : Oral prophylaxis & topical fluoride application

Clinical Features

- Skeletal Class II malocclusion - retrognathic mandible
- Tapered upper dental arch
- Localized crossbite on #12/42, #63/33
- #12 palatal ectopic eruption
- #13,23 eruption disorder
- Crowding on upper & lower incisors



Pre-treatment (intraoral scan)



Laboratory work order

- Anterior teeth alignment accompanied by maxillary expansion
- Deep-bite correction by intrusion of maxillary incisors
- Rotation control of maxillary first molars
- Uprighting and rotation control of mandibular first molars

Mid-treatment (intraoral scan)



Discussion

- Even in patients with difficult cooperation, satisfactory orthodontic treatment can be achieved for both the clinician and the patient, through use of clear aligners.
- Monitoring for the eruption of #13 and #23 is required.



CATCH 22 Syndrome

- Difficulties in cooperation



Difficulties in orthodontic treatment

- Non-invasive treatment is recommended



Highly motivated patient & parents



Clear aligners

- Impression taking is not required
- No need to change the orthodontic wire



Satisfactory outcome

- The patient can now remove the appliance independently.
- Tooth alignment with maxillary expansion is in progress.

Summary

- This report presents orthodontic treatment using clear aligners in a 10-year 8-month-old child diagnosed with CATCH 22 syndrome.
- Clear aligners can be attempted effectively in patients with low cooperation levels and can yield satisfactory results for both clinicians and patients.
- Clear aligners could be adequate treatment option for patients with disabilities or those facing difficulties in cooperation.



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