Anterior Cross Bite

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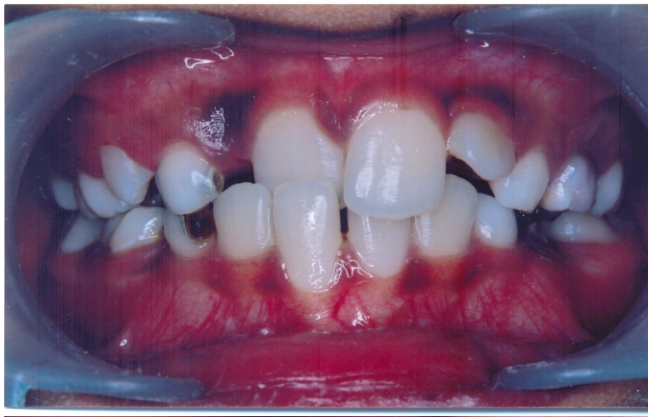
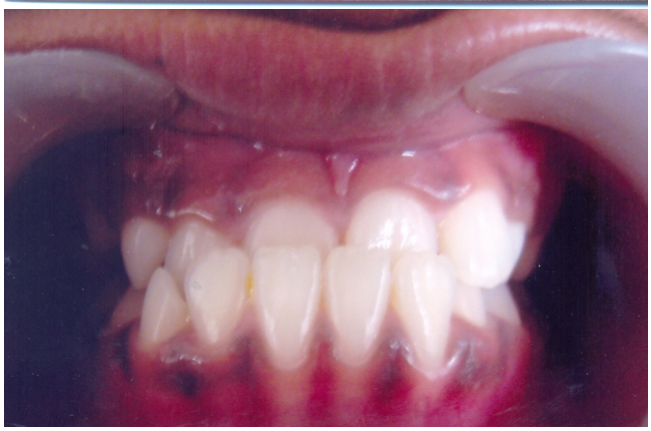
Introduction

Most common and initial type of malocclusion occurring in children is a cross bite. Most common complaint from a parent regarding the position of a newly erupted permanent tooth is its position lingually, when compared to the other permanent teeth. The normal relation of the anterior tooth is such that the upper anterior tooth overlaps the lower anterior tooth. But in a cross bite the position is just the reverse, i.e. the lower anterior tooth overlaps the upper anterior tooth.





Definition

An anterior cross bite is defined as an abnormal labiolingual relationship between one or more maxillary and mandibular anterior tooth when the two dental arches are brought into maximum intercuspation.

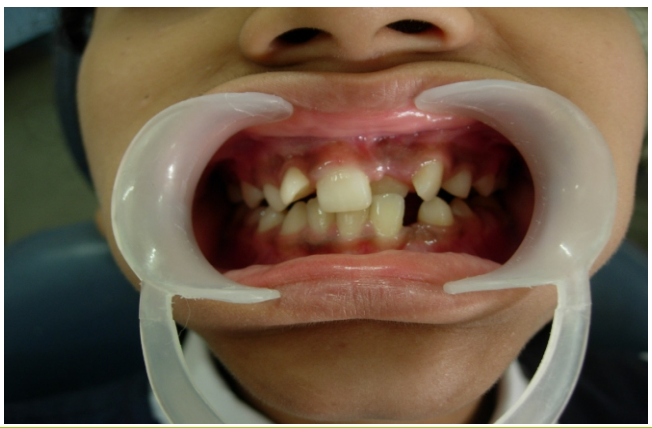
Causes of anterior cross bite

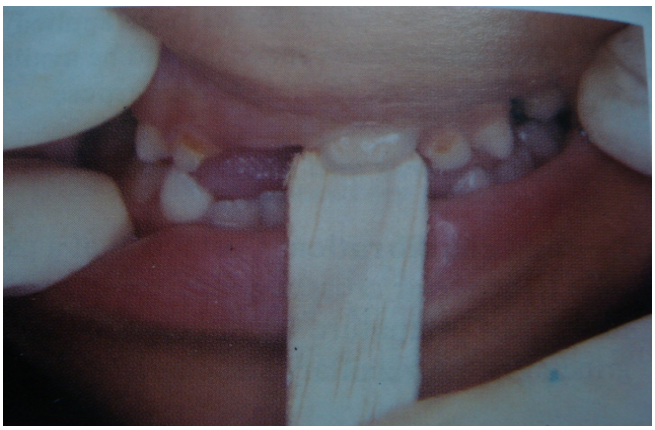
1. Injury to the milk dentition that cause a lingual displacement of the permanent tooth bud.
2. Presence of a supernumerary tooth or an extra tooth in the path of eruption of the permanent tooth bud can deflect or deviate the path of the erupting permanent tooth.
3. Inadequate length of the dental arch that may fail to accommodate the permanent tooth into its slot.
4. In children having lip biting habit, the pressure applied by the lip can push the erupting tooth inward and result in anterior cross bite.
5. A functional cross bite caused due to premature tooth contact during maximum intercuspation.
6. Bony abnormalities like excessive abnormal mandibular growth, may cause the lower jaw to be well ahead of the upper jaw causing the whole upper anterior segment to be in cross bite. Similarly underdeveloped upper arch can also cause the same problem.

Treatment

Occlusal equilibration: correction of premature tooth contacts by incisal grinding of maxillary and mandibular anterior teeth.

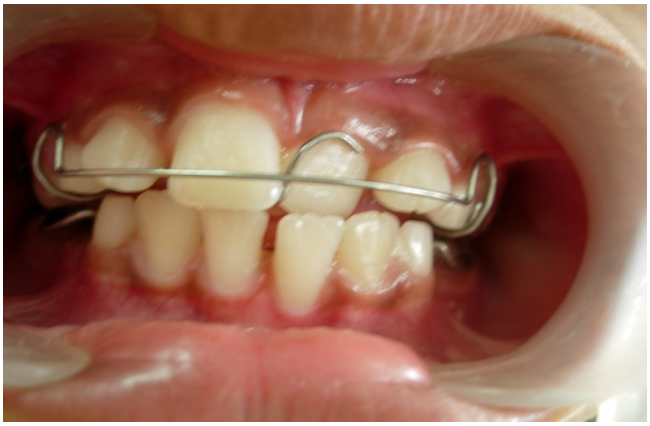
Tongue blade therapy: it is ideally suited for cases where a simple one tooth cross bite exists, with the teeth in early stages of eruption. Using the lower anterior tooth as the fulcrum, the tooth in cross bite can be pushed out by placing or wooden tongue blade 45° behind the tooth. It should be used 1-2 hours daily for 10-14 days.

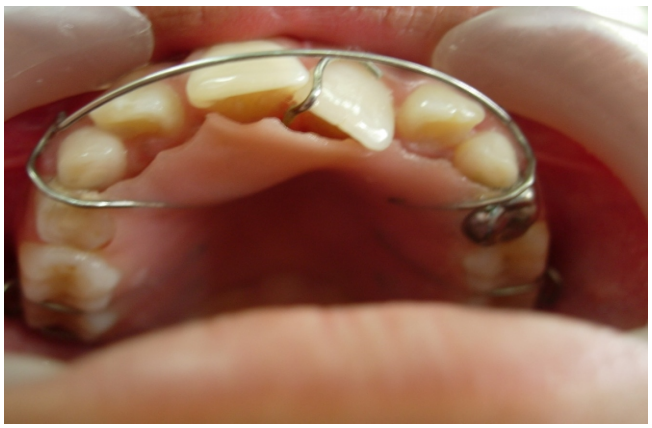




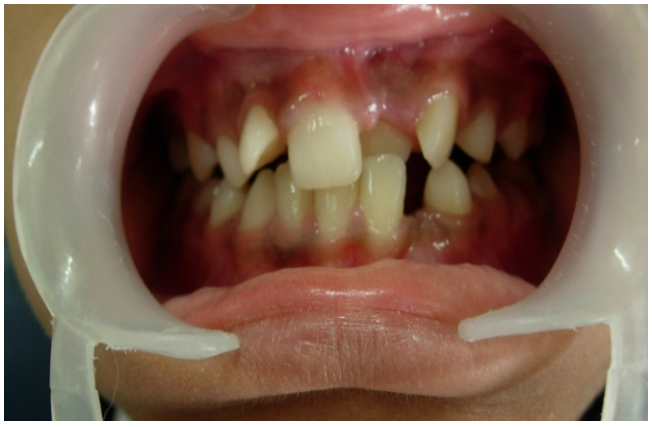
Lower inclined plane: an inclined plane is an appliance made up of acrylic resin which is contoured in a 45° angle to the long axis of the lower incisor tooth and is fixed to the lower teeth using a cementing agent.

Removable appliance therapy: a maxillary Hawley's appliance with Z- spring incorporated into the acrylic resin is useful in correction of single anterior tooth cross bite. Movement of the incisor in cross bite is accomplished by help of springs which can produce a movement of 1.5-2mm every one or two weeks. These appliances are also accompanied by a bite plane to open the bite, and to relieve the locked incisor.

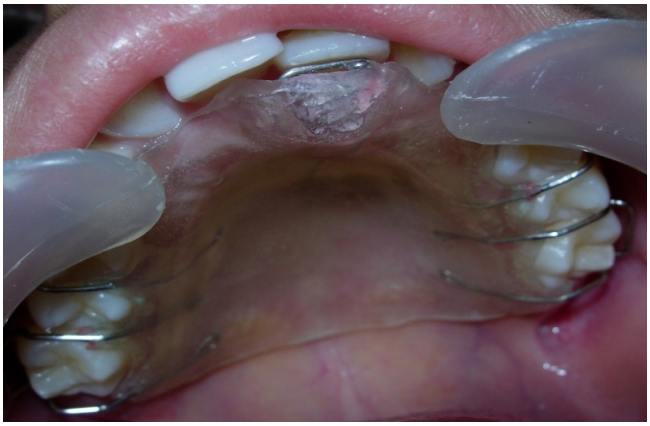




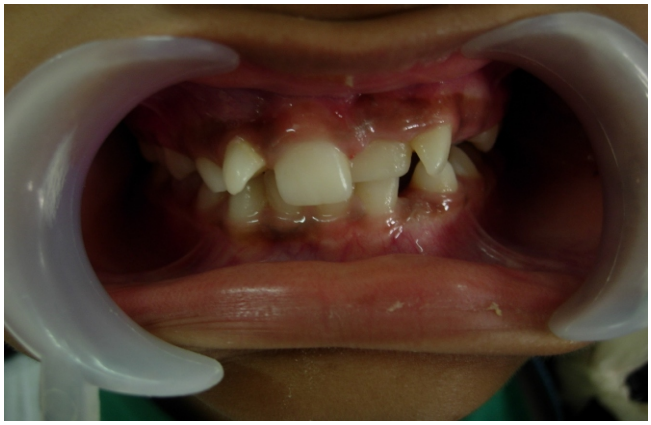
Pre treatment



Appliance in the mouth



Post treatment



Fixed appliances: it is the most reliable treatment option for the correction of anterior cross bite. The clinician has better control over the movement if the tooth. Auxiliary springs are incorporated into a lingual arch or a palatal arch which may provide movement for the tooth in cross bite.

Conclusion

Anterior cross bite is not an uncommon finding in children having mixed dentition. The correct diagnosis regarding the nature of the disease, i.e. whether it is of dental origin or bony origin is of prime importance for the clinician to do a proper treatment plan. However anterior cross bite should be corrected AS SOON AS POSSIBLE.

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