



19. DENTAL TRANSPOSITION. DIAGNOSTIC AND TREATMENT GUIDELINES

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Introduction. Tooth transposition is a rare anomaly in orthodontics, presenting a distinctive challenge that demands precision and expertise. This phenomenon, characterized by the interchange of positions between two adjacent permanent teeth within the same quadrant of the dental arch, has sparked a growing interest in diagnostic and treatment methodologies, because of the various factors that need to be taken into consideration in the treatment selection options such as cooperation, aesthetics, functionality and age, influencing decisions on whether the treatment should involve tooth extractions, aligning the teeth according to the transposition order, or correcting the transposition through orthodontics.

Aim of study. The main purpose of this review is to evaluate the optimal diagnostic and treatment features of patients with dental transposition.

Methods and materials. In order to fulfill the specified goal, were analyzed several electronic databases such as PubMed, ResearchGate, Google Scholar, Sci-Hub and NCBI, using the following keywords: “tooth transposition”, “dental developmental anomaly”, “ectopic eruption”.

Results. Transposition can affect both genders equally, and although it can occur in the maxilla or mandible, the frequency of permanent involvement of the upper canine is the highest. In the maxilla, the canine is most commonly transposed with the first premolar (70%), less frequently with the lateral incisor (20%), rarely followed by the central incisor or second premolar. It has been reported that maxillary tooth transposition occurs in approximately 1 out of 300 hundred orthodontic patients. Unilateral transpositions are more commonly found than bilateral transpositions and show a left-side dominance. Transposition of the upper canines and first premolars was identified in a group of 73 individuals with cleft lip and palate, where 3 patients (4.1%) exhibited this anomaly. Diagnosing and treating dental transposition pose various challenges, many of which can be effectively tackled using CBCT. The severity of transpositions and the imposed alveolar limitations, in turn, can define the level of difficulty and treatment duration, potentially affecting the biomechanical strategy that needs to be employed.

Conclusion. Tooth transposition, once a perplexing challenge, is now being tackled with a modern and multidisciplinary approach. Advances in diagnostic tools, treatment modalities, and patient education contribute to the evolving landscape of managing this unique dental condition.