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Tooth Ankylosis: The Pathological Fusion Between Alveolar Bone and the Cementum of Teeth

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EDITORIAL

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INTRODUCTION

The pathological fusion of alveolar bone and tooth cementum, known as tooth ankylosis, is a rare occurrence in the deciduous dentition and even rarer in permanent teeth. Ankylosis occurs when the tooth root is partially resorbed and then repaired with cementum or dentine, which joins the tooth root to the alveolar bone, frequently after trauma. However, root resorption does not always result in tooth ankylosis, and the reasons of tooth ankylosis are largely unknown. The incidence rate of ankylosis in deciduous teeth, on the other hand, is clearly higher than in permanent teeth.

Teeth ankylosis risk factors can be divided into two categories: hereditary factors and dental trauma. Clinical tests, x-rays, and cone beam computed tomography are all used to diagnose tooth ankylosis (CBCT). Tooth ankylosis can cause a variety of symptoms, the most common of which is a decrease in tooth count. Gender and sex may possibly play a role in the occurrence of some symptoms, but the full mechanisms are still unknown. Non-growing subjects and growing ones would show various signs and symptoms in general.

DESCRIPTION

Individuals with ankylosis of deciduous teeth are at risk of losing these teeth as a result of tooth eruption failure during facial growth, which can result in a variety of functional and aesthetic issues. Tooth ankylosis is commonly treated by removing the crown of the diseased tooth after diagnosis via clinical examination or CBCT scan. Early orthodontic intervention has also been shown to be useful in facilitating the repair of lost space and allowing tooth eruption. It is now being researched for its potential application in the prevention of tooth ankylosis.

Because ankylosis can obstruct normal tooth development, early detection and intervention are critical to preventing future progression and deterioration of the problem. When such an anomaly is discovered in deciduous teeth in children and adolescents, it frequently leads to infraocclusion of the ankylosed tooth, as well as inclination of the teeth adjacent to the area. Impaction of the permanent succeeding teeth would happen as a result. Given the circumstances, early interceptive orthodontic treatment has been shown to be successful in facilitating the repair of lost space and allowing tooth eruption. According to one case, this approach yielded positive results and improved the patient's situation.

Clinical signs of tooth ankylosis include a lack of physiological mobility and a high P note. Loss of periodontal ligament space and indications of replacement resorption can also be seen on radiographs. Ankylosis commonly develops on the labial and lingual root surfaces first, making early radiography identification challenging. Early detection allows the doctor to prepare for any complications.

Patients' indications and symptoms can vary greatly depending on the status of their teeth as they grow (permanent or deciduous). Other factors, including as age, sex, and infection site, may also contribute to the development of certain signs and symptoms, but their roles are not well understood. Reduced tooth count, aberrant tooth enamel, curving of the fifth finger, larger lower jaw, and atypical dentition are all common signs, with decreased tooth count being the most common.

There may be no visible symptoms in non-growing subjects who have completely established permanent teeth. Due to continual root replacement resorption, the alveolar support of the afflicted tooth will deteriorate. This process will come to a halt when root fractures and a shed crown occur, and modifications in the dentition, particularly in the anterior teeth, can be seen at this period. Infraocclusion and asymmetry in the grin arc are two possible symptoms. In non-growing subjects, however, ankylosis in the posterior teeth may be completely asymptomatic since the modest change in height of the affected teeth may not be obvious to both the patient and the clinician, as it is in the anterior teeth.

CONCLUSION

Symptoms in developing subjects can vary because distinct features of tooth growth, such as vertical, sagittal, and transverse growth, are different in children and adolescents. Symptoms are usually more severe when the disease first appears. The majority of ankyloses in children are caused by trauma, and the most common symptom is malposition of the affected teeth. Symptoms such as functional impairment due to loss of occlusal contacts as a result of the reduced vertical distance of the ankylosed teeth and shift in dental midline associated with tipping of adjacent teeth towards the affected tooth are likely to develop in moderate and severe cases in growing subjects.

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