Further studies are needed to investigate the prognosis for implants in patients refractory to the traditional periodontal therapies who lost 65% to 88% of questionable teeth in long-term follow up.

Most studies reviewed compared the survival/longevity outcome. Further studies are needed to evaluate the physiologic/physical and behavioral/psychosocial outcomes in comparing the two treatment modalities.

Conclusion

The predictability of osseointegration may not eclipse that of the advanced periodontal treatment in teeth with favorable prognoses, but favorable initial results were observed if implants were compared to teeth with questionable prognoses, especially in a specific group of patients.

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Temporomandibular Disorders

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Definition

"Temporomandibular disorder" (TMD) is a collective term that embraces a number of clinical problems that involve the masticatory muscles, the temporomandibular jont (TMJ) and its associated structures, or both.[1] TMD includes clusters of related disorders such as masticatory muscle disorders, disc displacement disorders, and inflammatory disorders of the TMJ that have many common symptoms. Therefore, it is clearly demonstrated that TMD is not a single disease but a term describing a group of related disorders in the masticatory system.

Etiology

Occlusion was once regarded as the primary etiologic factor for TMD. Therefore, prosthodontists were taught that occlusion should be idealized to treat TMD. However, recent scientific evidence suggests that occlusion may have only a small role in the etiology of TMD. Yet, occlusal factors may be the result, not the cause, of TMD. Obrez and Stohler[2] demonstrated that jaw pain induced by a saline injection to the masseter muscle caused significant displacement of the gothic arch apex and changes in the occlusal contacts. Occlusal change does not induce pain but pain induces changes in occlusion. If there is a cause and effect relationship, causes should precede effects. However, occlusal change did not precede the pain in this experiment.[2] Even if clinicians find an occlusal abnormality in a jaw-pain patient, this may not be the cause of the pain but a sequelae from it.

There are additional criteria to prove the cause and effect relationship, one of which is a dose-response relationship. Correlation between the prevalence and severity of TMD and the amount of retruded contact position to intercuspal position slides is not significant in both patient and nonpatient populations. Furthermore, a significant correlation between the prevalence and severity of TMD and the amount of vertical and horizontal overlap has not been reported either. Thus, a dose-response relationship between occlusion and TMD has not been proven. Strength of the association is also a criterion for causality. Multiple logistic regression analysis on the occlusal characteristics in TMD patients and an asymptomatic control group revealed that the occlusal factors explained no more than 4.8% to 27.1% of cases.[3] Thus, the association between occlusal factors and TMD is weak. Another requirement to prove the causality is consistency of the association. In other words, results from studies employing different research designs should coincide. However, papers dealing with the relationship

between occlusal factors and TMD showed variable results. Finally, the association should make epidemiologic sense. In other words, the association should be biologically plausible. TMD is more prevalent in females than males. However, there is no sex difference in the prevalence of malocclusion. Occlusal interference can be seen not only in TMD patients but in healthy subjects as well. Many TMD patients do not have malocclusion. Hence, there is no biologic plausibility in the association between occlusion and TMD.

From the above description, it must be concluded that the cause and effect relationship between occlusion and TMD has not been proven.

Management

Since the causality of occlusal factors for TMD has not been proven, any intervention for the prophylaxis of TMD or aggressive and irreversible therapy for the initial management of TMD should be avoided. However, some prosthodontists have carried out occlusal adjustments or extensive restorations for the management of TMD, including displaced discs or joint sounds.

Arthroscopic surgery has often been used for the treatment of internal derangement. Postoperative disc position of arthroscopic lysis and lavage of the anterior disc displacement was evaluated. Although 92% of patients had a significant reduction in pain and restoration of their normal mandibular function, 92% of patients also had persistent anterior disc displacement.[4] A study on disc position after occlusal appliance therapy for the treatment of internal derangement revealed that 90% of successfully treated joints continued to exhibit disc displacement.[5] Clinical improvement with occlusal appliances does not always represent the anatomical reduction of the disc. Furthermore, a study on the natural course of disc displacement without reduction reported that 43% of patients without treatment were free of symptoms within 2.5 years, 32% improved, and 25% continued to be symptomatic.[6]

As in many musculoskeletal conditions, the signs and symptoms of TMD over time are transient and self-limiting. The goal of the management should not be normalizing the morphology, but to decrease pain and improve function. Therefore, primary treatments should not be aggressive and irreversible but instead conservative and reversible, and the management should be focused on the control and reduction of symptoms, contributing factors, and pathologic sequelae.

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