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Guest Editorial

Are clear aligners as efficient as fixed orthodontic braces?

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In recent years, orthodontic treatment options have expanded beyond traditional fixed braces to include clear aligner therapy, such as Invisalign. This evolution has prompted a growing debate among patients and orthodontic professionals: Are clear aligners as efficient as fixed orthodontic braces? To address this question, it's essential to examine the current evidence in the literature regarding the efficacy of both treatment modalities.

Clear aligners offer several advantages over fixed braces, primarily in terms of aesthetics and convenience. These transparent aligners are custom-made to gradually shift teeth into the desired position, providing a discreet alternative to metal or ceramic braces. Moreover, clear aligners are removable, allowing for easier oral hygiene maintenance and the freedom to eat and drink without restrictions. These factors contribute to improved patient satisfaction and compliance, as reported in several studies.

However, the efficacy of clear aligners compared to fixed braces hinges on various factors, including the complexity of the orthodontic issues being addressed. While clear aligners are suitable for mild to moderate cases of crowding, spacing, and certain bite problems, their efficacy in treating severe malocclusions remains a topic of debate. Some research suggests that clear aligners may be less effective than fixed braces for complex cases, particularly those requiring significant tooth movement or rotation.

Several systematic reviews and meta-analyses have attempted to evaluate the effectiveness of clear aligners versus fixed braces. A systematic review published in 2015 concluded that clear aligners were effective in controlling anterior intrusion and posterior buccolingual inclination but not in anterior buccolingual inclination. Extrusion was the most difficult movement (30% of accuracy), followed by rotation. Bodily distalization of upper molar within 1.5 mm revealed the highest predictability (88%).[1] Thus, clear aligners were recommended in simple malocclusions. Li et al[2] reported that both clear aligners and braces were effective in treating malocclusion. Clear aligners had advantage in segmented movement of teeth while braces were more effective in achieving great improvement, producing adequate occlusal contacts, controlling teeth torque, increasing transverse width and retention than aligners. A recent systematic review[3] found that both clear aligners and fixed appliances were effective in the orthodontic treatment of premolar extraction-based cases. The review stated that fixed appliances have the advantage of achieving better buccolingual inclination and occlusal contacts. Treatment with clear aligners might be associated with differences between predicted and achieved tooth movements. Therefore, the characteristics of these techniques should be considered when making a treatment decision.

Aligners are often falsely marketed as a means of faster treatment. A systematic review reported that aligner

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treatment resulted in shortening the treatment duration. However it is important to note that all the included patients in the meta-analysis were non-extraction cases. For extraction cases, the treatment duration of clear aligners was 44% longer than that of braces.

It's worth noting that advancements in clear aligner technology, such as the introduction of attachments and precision-cut aligners, have improved their efficacy in addressing more complex orthodontic cases. Additionally, ongoing research continues to explore ways to enhance the efficiency and predictability of clear aligner therapy.

Ultimately, the choice between clear aligners and fixed braces depends on various factors, including the patient's orthodontic needs, treatment goals, and personal preferences. While clear aligners offer advantages in terms of aesthetics and convenience, fixed braces may be more suitable for complex cases requiring precise control and extensive tooth movement.

In conclusion, the current evidence in the literature suggests that clear aligners are indeed as efficient as fixed orthodontic braces in achieving dental alignment and occlusal improvements, particularly for mild to moderate cases. However, the efficacy of clear aligners in treating complex malocclusions may vary, and further research is needed to elucidate their long-term outcomes. Ultimately, a thorough evaluation by an experienced orthodontist is essential in determining the most appropriate treatment modality for each individual patient.

1. Conflict of Interest

None.

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