

Commentary

Orofacial dysfunction, open bite, and myofunctional therapy

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Summary

Many orthodontists see open bites as their most demanding assignments; aesthetic issues must be taken into account, the treatment is difficult and the long-term stability unpredictable. Myofunctional treatment may not always be the right choice for this category of malocclusions, but it should be given a serious consideration. We need all the help we can get to treat open bites.

The challenging open bite

A paper in this issue of the European Journal of Orthodontics deals with anterior open bite, a debated and important orthodontic topic, focusing on a treatment alternative that targets the aetiological factors. This pilot study by Van Dyck *et al.* (1) may not be a proven breakthrough on the subject of open bite, but it highlights the orofacial myofunctional aspects of the problem and convincingly explains why we should direct our research and treatment efforts towards aetiology and early intervention.

The controversies regarding open bite are typical of the most complex problems in orthodontics. The multifactorial aetiology may include a pattern of excessive vertical growth combined with environmental elements such as deficient nasal airway and mouth breathing, sucking habits, and lip or tongue thrusting or posture (2, 3). Aesthetic problems are frequently a complicating factor that must be dealt with in the treatment plan. Some studies of non-surgical open bite correction with fixed appliances have reported acceptable stability of the incisal relationship (4), but the success and stability of open bite treatment still seems to be less than that of most other orthodontic efforts (5), confirming our inadequate knowledge (6) and lacking control over the causative factors.

The physiological maturation from visceral to somatic swallowing affects the position and function of the tongue and normally allows the development of a favourable incisal relationship. When this process is delayed we see a persistent open bite in the primary and early mixed dentitions and questions arise. What about diagnosis, criteria, and treatment timing? Can early intervention be recommended to save effort, time or money and to secure stability of results? To answer these questions we need studies that efficiently

test orofacial myofunctional treatment (OMT) as exemplified by the study of Van Dyck *et al.*

The sample in this study was based on clinical criteria; the subjects were 6–10 years old and had open bite and a visceral swallowing pattern. They were randomly assigned into two groups; OMT patients and a non-OMT group for control. The OMT included 20 structured sessions to strengthen tongue and lip musculature and to co-ordinate swallowing movements. The results after 6 months of OMT and another 6 months of follow-up confirmed a significant improvement in tongue posture and anterior occlusal relationship. Reservations are made and the authors emphasize that this is a pilot study, but with a thoroughly analysed background, meticulous research protocol and a wise discussion the study may lead the way to further knowledge in the field.

Mechanical approach or myofunctional therapy?

Orthodontists are trained and qualified to use technical methods to correct dental and occlusal anomalies and with increasing practice and skill their inclination towards the mechanical approach tends to be strengthened. Open bite treatment frequently includes bonded or removable appliances to eliminate destructive habits or intra- or extraoral appliances to hold back vertical maxillary growth. Zygoma implants have been introduced to control or even reduce the maxillary dentoalveolar dimensions and advanced surgery prevails as the ultimate resource in persistent and severe cases. Other approaches, such as OMT, may become more remote for the orthodontist with absence of OMT providers, his own lack of OMT training and the general shortage of time for new routines in the busy orthodontic office.

The effectiveness of OMT has been reported earlier (7), but more evidence is needed about the associations of open bite with tongue and lip function and about the possibilities of myofunctional training to treat open bite. With their methodical study Van Dyck *et al.* have given us a new and higher platform for further investigations on this subject. I congratulate the authors on their excellent research.

References

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