Making a Case for Early Orthognathic Surgery

The overall benefits of orthodontic therapy for adolescent patients are well documented. Establishing a physiologic occlusion prior to full facial development allows symmetrical, harmonious growth of the orofacial complex. Proper alignment of the teeth in the early permanent dentition makes it easier to maintain oral hygiene, which can reduce the incidence of caries and periodontal problems if patients do their part. But there are also well-established psychological and social benefits of orthodontic treatment for adolescents. It may be a moot point whether the physiological or psychosocial benefits are more significant, but if forced to make such a decision, I would have to come down on the psychosocial side.

Research in social psychology has demonstrated that facial attractiveness affects everything from how mothers interact with their babies to hiring decisions, career advancement, and the outcomes of criminal trials. It has even been shown that soldiers with more attractive faces are more likely to be awarded medals for heroism. Furthermore, researchers have found that when factors influencing facial attractiveness are ranked, the smile is second only to the eyes. As orthodontists, we know instinctively as well as intellectually that a person’s self-esteem is directly related to orofacial appearance.

Although the topic of early orthodontic treatment to optimize a physiological outcome remains controversial, our specialty has always recognized that early treatment of a disfiguring orofacial deformity to enhance a child’s psychosocial development is both appropriate and necessary. The bullying undergone by children with severe Class II or Class III malocclusions can be piteous, and that alone is a reason to accelerate orthodontic treatment. Generally, severe sagittal discrepancies in the prepubertal phase are addressed with either extraoral appliances, such as headgear for Class II cases and facial masks for Class III, or any of a variety of intraoral functional appliances.

Orthognathic surgery for correction of severe skeletal malocclusion in a growing patient is almost unheard of. Like most American orthodontists, I was taught a hard-
and-fast rule that before considering surgery on a young patient, we had to demonstrate cessation of facial growth by superimposing lateral cephalograms taken at six-month intervals. If a superimposition showed continued growth, the patient was “put on hold” for another six months. But in the senior year of my residency, I was shocked and intrigued when a visiting scholar, an oral and maxillofacial surgeon from the Soviet Union, presented a series of cases in which orthognathic surgery was performed prior to the cessation of facial growth. Although the results were impressive, and I remained interested in the approach, the literature on the subject over the intervening 30 years has been sparse indeed.

In this issue of JCO, an international team of authors attempts to fill that gap. Three cases presented by Drs. Carlos Villegas, Giovanni Oberti, Ivan Jimenez, Lorenzo Franchi, and Tiziano Baccetti provide evidence, in the authors’ words, “that favorable long-term outcomes can be achieved with early surgical intervention in growing Class III patients.” As the authors also note, surgery should be reserved for cases in which delaying treatment would result in significant psychosocial harm. These patients must be followed closely, and they and their parents must be fully informed that retreatment may be necessary at a later age, should the Class III tendency continue to exert itself.

There is no doubt that further research remains to be done on the topic of early orthognathic surgery, but the cases shown in this month’s article are certainly a good starting point. Given the incontrovertible benefits of facial attractiveness in the development of self-esteem and a positive life trajectory, such research should be considered a priority by funding agencies.

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