READER'S FORUM

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Preliminary study of Korean orthodontic residents' current concepts and knowledge of cleft lip and palate management.

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Q1. In this survey the authors studied the passive and active types of presurgical infant orthopedic (PSIO) appliances separately. Could you tell us the indications of these two kinds of appliances and their impact on further treatment? What is your opinion on the long term follow up studies that insisted that there are no differences in final treatment results between early orthognathic treatment and no intervention?

Q2. You mentioned that there are a large number of surgery cleft lip and palate (CLP) patients being treated without sufficient doctor's knowledge on cleft repair surgery methods. I believe orthodontic treatment approaches can vary according to different surgical methods. Could you comment on this and also tell us how we can improve the situation?

Q3. The optimal timing of palatal closure has been controversial. What could be the gold standard in reference to the severity of CLP or presence of unilateral versus bilateral CLP?

Q4. You mentioned that development of the canine or lateral incisor of the maxilla is more effective factor than chronological age in alveolar bone graft (ABG). What is the reason? The optimal timing of secondary

alveolar grafting tends to be broad. Is there any gold standard on the timing of iliac bone graft? Also, considering that the maxillary lateral incisor can be absent by nature, can you explain the relationship between root development and the timing of ABG?

Q5. Is there any study about the stability of bone graft with respect to its type?

Questioned by

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A1. A classification of active or passive type is dictated by the type of alveolar bone molding. So, no specific differences exist in the indications between the types and it is just a preference of the treating doctors. But, there has been a study that active typed appliances have a negative effect on the maxillary growth. There are also no relations between selection of the appliance types and the method of cheiloplasty. Controversy has existed over the stability of PSIO. But, cheiloplasty, palatoplasty, alveolar bone graft and differences between races should be considered. So, to say the least, long term studies on Korean population are in need.

A2. When operating cheiloplasty, undermining is extended to mucobuccal fold area for lip closure. At this time, if the cleft gap is too large, wound tearing or scar tissue can occur because of presence of undue tension in the area. The location of scar can be various according to palatoplasty, and maxillary contraction can be observed more often. And if periosteum of vomer is exposed, scar can be so long that frontal and lateral growth of the maxilla can be obstructed as well. So, it is important for the treating orthodontists to know the pros and cons of surgery methods.

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A3. There are two optimal timings. The first is one-stage closure technique which operates 12 - 18 months after one's birth. This approach emphasizes language development and pronunciation. The second is two-stage closure technique which requires soft palate surgery in 12 - 18 months after one's birth followed by hard palate surgery in 4 - 5 years after the birth. This approach emphasizes the maxillary growth. Recently, because mid-face deficiency can be alleviated by bony extension or maxillary frontal traction, one-stage closure technique prevails. I think the timing of palatal closure is not different in unilateral or bilateral cases.

A4. One of the major purposes of alveolar bone graft is to connect the bone segments which have split apart. At this time, erupting tooth can be an important part of generating the bone. So, development of the canine or lateral incisor in the maxilla (root development 1/2) is more important factor than chronological age on ABG. Another important factor of secondary alveolar grafting is the amount of available iliac bone to be gathered. Generally, the amount

of bone graft needed can be calculated by 3-dimensional computed tomography. So, the weight and physics of the child need to be evaluated. And the horizontal and vertical location is also important. If the maxillary lateral incisor remains, the developmental level of this tooth can serve as the standard of ABG timing. Otherwise, the canine can function as an alternative.

A5. Currently, autogenous bone graft material is known as the best for the reason of 'stability'. Lilja et al. (Cleft Palate Craniofac J 2000;37:98-105) reported that the grafting height decreases from 90% to 75%. Giudice et al. (Plast Reconstr Surg 2007;119:2206-17) found that functional loading of a transferred tooth can be helpful in increasing the stability after ABG.

Replied by

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