

Oral and maxillofacial surgeries for patients with cleft lip and/or palate

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Cleft lip and/or palate (CL/P) are birth defects that affect especially the buccal cavity. The estimated prevalence of CL/P is of approximately 1 per 700 live births. Therefore, they represent the most common craniofacial malformations in humans [1].

With respect to the causes of CL/P, a complex multifactorial etiology that results from interaction between various genetic and environmental factors has been described in the literature [1,2].

Such malformations, moreover, are associated with several disorders including a higher frequency of dental anomalies [3], alterations in gastrointestinal microbiota [4] and immunomodulation [5], and hipermasality [6].

Another major point is that anatomic deformities resulting from CL/P are frequently observed involving the lip, alveolar ridge and palate. Consequently, treatment of CL/P often requires several surgeries [7].

In this sense, oral and maxillofacial surgeries may be very relevant. Thereby, both alveolar grafting and orthognathic surgeries deserve highlight.

It should be noted that alveolar grafting can be performed with use of autogenous bone from iliac crest or with biomaterial. Recombinant human bone morphogenetic protein type-2 is a biomaterial, which has been used with success for bone formation induced in the cleft area. Furthermore, the use of this biomaterial presents several advantages in comparison with the autogenous bone [8-11].

In turn, orthognathic surgeries (performed in patients with CL/P) are generally required to correct sagittal and transverse maxillomandibular discrepancies. Such procedures are indicated in patients with moderate to severe maxillary deficiency after growth [12,13].

It is also important to point out that these discrepancies are usually caused by the maxilla growth inhibition, due to the detrimental effects of the primary reconstructive plastic surgeries (cheiloplasty and palatoplasty). Therefore, the presence of orofacial characteristics such as hypoplastic maxilla, concaved mid-face and deformed dental arch can be mainly observed after plastic surgeries in patients with complete cleft lip and palate [14].

In view of that, maxillary advancement surgery or combined maxillary advancement and mandibular retroposition [12], as well as surgically assisted rapid maxillary expansion [13] are, in many cases, essential for effective treatment of CL/P.

Within this context, it should still be remembered that in patients with alveolar bone defects, the teeth extraction adjacent to the cleft area (in the cleft segment) requires the use of special anesthetic technique. This can be explained by the fact that there may be several anatomic variations in

nerve courses in the cleft areas, since these courses are embryologically determined by the presence of the clefts [15].

In conclusion, it is important for oral surgeons to know about the peculiarities of the oral and maxillofacial surgeries for patients with CL/P. In addition, these surgical procedures, undoubtedly, are indispensable for complete rehabilitation of many of these patients.

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