Patient Specific Implants (PSI) in orthognathic surgery

Martin Gaboury
OroSphere, Canada

Maxillofacial correction of dentofacial deformities by means of orthognathic surgery is a common procedure nowadays. However, even if maxillary and mandibular osteotomies can greatly enhance facial aesthetic and harmony, some regions of the facial skeleton remain unchanged following conventional orthognathic surgery. Of these areas, the malar prominence and the mandibular angles warrant specific considerations. Indeed, surgical correction of malar and mandibular angles hypoplasia is challenging, and the ideal procedure or material for definitive augmentation is not yet established. With recent CAD-CAM technology advances, patient specific implant (PSI) based on mirroring algorithms have proven themselves to be a precise, safe and reliable option for the management of post-traumatic unilateral defect of the face. Based on that experience, PSI are now introduced in aesthetic augmentation of the facial skeleton. However, bilateral cases are much more demanding for the clinician, from a planning perspective. The complete workflow, from data-acquisition to 3D virtual treatment planning and manufacturing, will be discussed, highlighting the potential pitfalls of this rather new technology.

Biography
Martin Gaboury obtained his Doctor of Dental Medicine degree in 2007 at Laval University (Quebec) and then completed his residency in Oral and Maxillofacial Surgery at l’Hôpital de l’Enfant-Jésus, affiliated with Laval University (Quebec), in 2013. He is board certified in his specialty in Canada (FRCD(C)). He obtained his Master’s degree the same year, with an award-winning thesis project focusing on orthognathic surgery. In 2015, he completed a one year clinical Fellowship in Maxillofacial and Facial Plastic Surgery in Bruges, Belgium. He is a reviewer for the International Journal of Oral and Maxillofacial Surgery and is co-author of three chapters of Prof. Gwen R J Swennen’s new book, “3D Virtual Treatment Planning of Orthognathic Surgery”.

martin.gaboury@hotmail.com

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