

Prostheticly Oriented Approach for Determination of Fixture Position for Facial Prostheses Retention in Cases with Atypical and Combined Facial Defects

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Abstract : There are many diseases and incidents that may result facial defects and deformities: cancer, trauma, burns, congenital anomalies, and autoimmune diseases. In some cases, patient may acquire atypically extensive facial defect, including more than one anatomical region or, by contrast, atypically small defect (e.g. partial auricular defect). The anaplastology gives us opportunity to help patient with facial disfigurement in cases when plastic surgery is contraindicated. Using of implant retention for facial prosthesis is strongly recommended because improves both aesthetic and functional results and makes using of the prosthesis more comfortable. Prostheticly oriented fixture position is extremely important for aesthetic and functional long-term result; however, the optimal site for fixture placement is not clear in cases with atypical configuration of facial defect. The objective of this report is to demonstrate challenges in fixture position determination we have faced with and offer the solution. In this report, four cases of implant-supported facial prosthesis are described. Extra-oral implants with four millimeter length were used in all cases. The decision regarding the quantity of surgical stages was based on anamnesis of disease. Facial prostheses were manufactured according to conventional technique. Clinical and technological difficulties and mistakes are described, and prostheticly oriented approach for determination of fixture position is demonstrated. The case with atypically large combined orbital and nasal defect resulting after arteriovenous malformation is described: the correct positioning of artificial eye was impossible due to wrong position of the fixture (with suprastructure) located in medial aspect of supraorbital rim. The suprastructure was unfixed and this fixture wasn't used for retention in order to achieve appropriate artificial eye placement and better aesthetic result. In other case with small partial auricular defect (only helix and antihelix were absent) caused by squamoized cell carcinoma T1N0M0 surgical template was used to avoid the difficulties. To achieve the prostheticly oriented fixture position in case of extremely small defect the template was made on preliminary cast using vacuum thermoforming method. Two radiopaque markers were incorporated into template in preferable for fixture placement positions taking into account future prosthesis configuration. The template was put on remaining ear and cone-beam CT was performed to insure, that the amount of bone is enough for implant insertion in preferable position. Before the surgery radiopaque markers were extracted and template was holed for guide drill. Fabrication of implant-retained facial prostheses gives us opportunity to improve aesthetics, retention and patients' quality of life. But every inaccuracy in planning leads to challenges on surgery and prosthetic stages. Moreover, in cases with atypically small or extended facial defects prostheticly oriented approach for determination of fixture position is strongly required. The approach including surgical template fabrication is effective, easy and cheap way to avoid mistakes and unpredictable result.

Keywords : anaplastology, facial prosthesis, implant-retained facial prosthesis., maxillofacil prosthese

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