Surgical and prosthetic rehabilitation of cancerous defects of the maxilla: A prosthetic rehabilitation after partial maxillectomy

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OBJECTIVES

The excision of maxillary tumors causes facial mutilation, which leads to a functional and aesthetic deficit. Maxillary reconstruction has four objectives: closure of the defect, function retrieval, repair of the shape and symmetry of the face, and of the eye socket if necessary.

METHODS

The following case illustrates the prosthetic treatment of a palatal defect after the excision of an epidermoid carcinoma. Surgical reconstruction of the defect was not possible in this case (due to age and future radiotherapy). Surgical reconstruction and prosthetic reconstruction were compared in a literature review.

Pros and Cons of Maxillary Prosthetics

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
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<tbody>
<tr>
<td>Decrease of duration of surgery</td>
<td>No denture is definitive</td>
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<tr>
<td>No morbidity</td>
<td>Maintenance</td>
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<td>Acceptable quality of life</td>
<td>Patient is reminded daily of the mastectomy</td>
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<td>Esthetic</td>
<td>Mechanical constraints</td>
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<tr>
<td>Limited price</td>
<td>Psychological constraints</td>
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After surgical excision of the cancer, the facial aesthetics were restored by a prosthetic restoration designed and fabricated.

7) Fabrication of resin blocks on the mandibular prosthesis

During physiotherapy sessions, the mandibular prosthesis was used to improve mouth opening. When a mouth opening of about 2 cm was obtained, tertiary impressions were taken for the mandibular prosthesis.

8) Intermaxillary relations, trial of mandibular teeth, and placement of mandibular denture (1 year after surgery)

9) Ideal follow-up: Regular maintenance, physiotherapy and cancer follow-up

RESULTS

The clinical case underlines some of the difficulties encountered during a maxilfacial prosthetic treatment. Rehabilitation after maxillectomy can be surgical or prosthetic. It is also possible to combine both treatments. The tissue loss must be treated as soon as possible, in a functional and esthetic manner, so that the patient can return to a “normal” life. Few studies compare prosthetic and reconstructive techniques. The choice of the best technique still remains quite subjective, as evidenced by multiple and sometimes contradictory publications. There is no consensus on an “ideal” treatment indication for each anatomic situation. The decision to reconstruct the maxillary defect surgically or to conceive a prosthetic obturator depends on factors such as: the age and medical history of the patient, the size of the maxillary defect, and the experience of the surgeon. Surgical reconstruction and prosthetic rehabilitation both provide advantages and disadvantages.

CONCLUSION

In all cases, teamwork between doctors, and the psychological and social aspects of the treatment are essential. Treatment must include surveillance of the defect, and an adaptive global rehabilitation. The future reconstructions of maxillary defects seem to evolve towards an alliance of techniques: microvascular surgery, osseous distraction, implantology, and prosthetic rehabilitation by Computer-Aided Design and Computer-Aided Manufacturing (CAD-CAM).