

Tumors of the Oro-Facial System

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The increasing number of malignant cases in the oro-facial area represents by their increasing number lately a new problem regarding the treatment and diagnosis. These cases present an increased difficulty of diagnostic and treatment, because they are usually diagnosed in late stages. Patients are often unaware of the gravity of their situation due to the lack of specific or almost absent symptomatology.

The incriminated factors and co-factors incriminated in the development of the malignant manifestations are of multiple origins: use of tobacco products, especially associated to alcohol abuse, chronic topical irritation of the oral mucosa, genetic predisposition or some types of viruses (human papilloma virus type 16 and 18 and herpes virus). Also factors like: environmental modifications, age, alimentation or pharmaceutical drug usage can be incriminated for the increasing pathology of the last decades, especially in well developed countries both from Europe and North America.

Our presentation is based on the case of a 61 years old male, showing almost the typical premises of a malignant pathology starting from the evolution of the oral lesion and the general and dental pathology status with the correlation of the objective and subjective examination. The lesion usually benefits of surgical treatment, followed by radiotherapy and oro-facial reconstruction, that can imply both plastic surgery and prosthetic rehabilitation, as was the case of our patient. Of most importance remains the moment of the prosthetic treatment and its correlation with radiotherapy, regarding the tissue modification that irradiation has on this level.

Keywords: oro-facial, malignant, lesion, carcinoma, biopsy, surgical and prosthetic treatment

Introduction

Oro-facial tumours in incipient stage are often ignored by the patients. They usually demand specialized treatment in a late phase of development of the lesion when the only eligible therapy is the surgical one, with all the following inconveniences: masticatory, phonetic and physiognomic dysfunction. Lately, there has been a worrying increase of the incidence of malignant tumours of this area.

In the aetiology of oral neoplasm there can be found factors and co-factors that can determine immunological changes and genetic mutation [1]. There are a large variety of clinical and theoretical studies demonstrating a strong correlation between heavy alcohol and tobacco abuse and the emergence of the oro-facial malignant lesions. Most alarming is the fact that those substances are consumed frequently among adolescents, giving the opportunity of the tumours to manifest at an early age or to develop for a longer period of time. Other aetiological factors often incriminated are the lack of oral hygiene and different periodontal diseases, acting like mechanical, chemical and bacterial irritation factors. Viral infection like HPV (Human Papilloma Virus) subtype 6, 11, 16, 18 and 73 and also Herpes simplex virus are supposed to be responsible for the malignant lesions. Other factors incriminated in the aetiology of the oro-facial neoplasm are external environmental manifestations, age, heredity, diet type, tumour treatments, immune factors or tumour suppressor genes (P53 suppressor gene).

Case report

Patient P.G., a 61 years old male, weighing 71 kg, presented to the dental office with pain located in the sub-lingual area, incriminating a lesion that he discovered about 10

weeks ago. The patient reported that the excrescence started as a mucosal superficial injury that he treated at home with chamomile tea and methylene blue.

After a dental examination in a private practice, an antibiotic treatment was prescribed but without any improvement of the symptomatology. Lesion evolved through different stages, from a vesicle to a pea-bean size and shape nodule. During the evolution of the lesion, no pain was reported. Pain appeared one month ago, patient also accusing occurrence of bleeding to any contact of the area.

Complex and complete clinical examination shows the following:

- ▶ general personal history: chronic toxic liver disease, aortic insufficiency 1st grade, atrial extrasystole, varicose hydrostatic legs, chronic smoker.
- ▶ personal dental history: multiple complicated decay that led to the loss of the affected teeth.

Exobucal:

- ▶ symmetric and oval face;
- ▶ concave profile;
- ▶ normal skin color;
- ▶ the lower face floor was diminished;
- ▶ the perioral grooves in accordance with the age, with a slight accentuation on the labiodental grooves;
- ▶ reduction of the mouth opening (no more than 30 mm).

Clinical direct examination determined the increased size of the sub-mandibular, sub-mental and jugal carotid lymph nodules with increased consistency and adherence to the underlying plans.

Endo-oral examination was performed with difficulty due to the limited opening of the mouth. A reduction of



Fig. 1. Intraoral view of the tumor

the tongue mobility was determined. Tongue also presented an debris-covered upper surface and accentuated hyperaemia of the side areas. The underside of the tongue presented spots on a hyperaemic base. Oral examination revealed a sub-lingual growth of approx. 2.5 cm, with left-paramedial localisation, with white spotted areas hyperaemic surface (Fig. 1).

On the upper jaw there were 2 metal-ceramic bridges, with incorrect adaptation that rehabilitated the edentation of the lateral areas of the dental arch. On the lower jaw 4 intraforaminally endosseous dental implants were discovered, loaded with a provisional prosthesis. The Rx exam shows a poorly defined radiolucent formation in the area of 41–35.

On the advice of the oro-maxillo-facial surgeon, a biopsy exam is recommended, leading to the diagnosis of well differentiated epidermoid carcinoma.

The patient is hospitalized at The National Institute of Oncology in Budapest, where tumor removal surgery is performed with partial resection of the mandible and tongue, latero-cervical lymphadenectomy (without lymph node metastases) and a plastic reconstruction of the mouth

floor with a self-epidermal flap from the forearm, on September 1, 2010. Postoperative evolution is favourable, patient experiencing some swallowing and phonation disorders.

Histopathology

Macroscopic examination

There were 19 pieces collected during the surgical intervention, the piece 17 representing the main body of the tumour. This was a sample with size $7 \times 5.5 \times 4.5$ cm, which one was composed from a piece of tongue tissue with size $5 \times 3 \times 4$, a part of the lower denture with mandible, and as well as striated muscular tissue. The mucosa on the sublingual area was uneven, in some places ulcerous, size 2×1.5 cm. On the cross section, could be seen an adequate area, similar with the one described on the surface, with blurry limits, approx. 0,5 cm thick, grayish-white, grayish-yellow area, which in some places was infiltrating the structure of the salivary gland. The other 18 pieces consisted of lymph nodules and area security extension of the primal tissue resection.



Fig. 2. Numerous fragments of adipose tissue, striated muscle, tongue, connective tissue, salivary glands, lymph nodules, mucosa, fragments from the mandible and a fragment from the tumor.

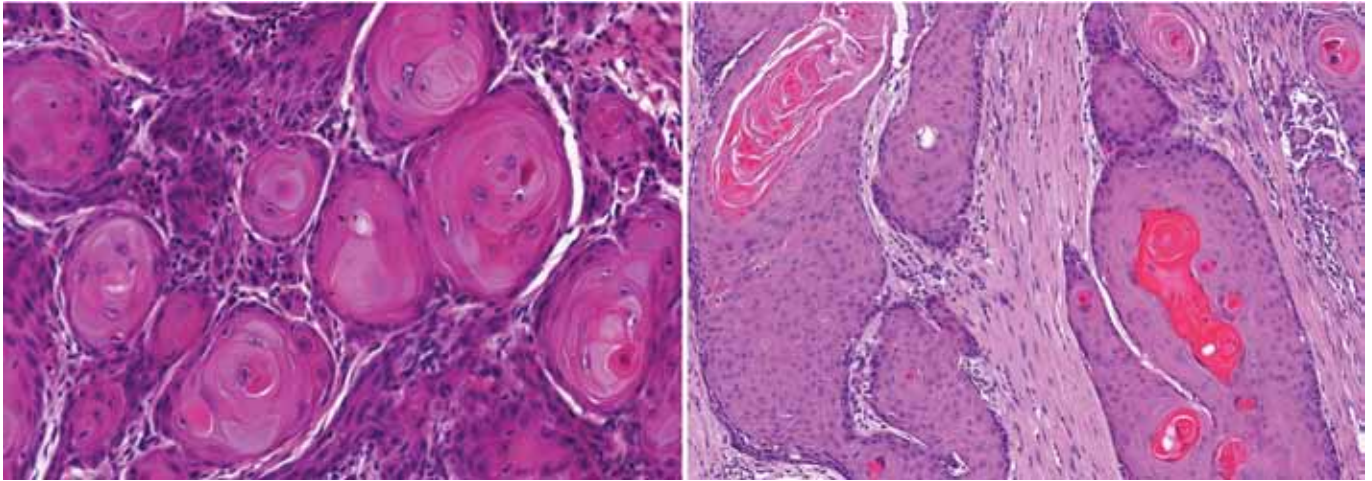


Fig. 3. Well-differentiated keratinized epidermoid invasive carcinoma col HE

Microscopic evaluation

By microscope was visible a tumour organized in packages, infiltrating the sublingual muscles, and the sublingual salivary gland. The tumour cells are big, the cytoplasm is mainly eosinophilic, the cells margins were keen. The cells nucleus are atypical, are bigger, inside then is visible a huge nucleus. The most of nests centre we could find keratinization. In the tumour it can be observed wide-spread perineural infiltration. At one point the tumour was pushing on the wall of a bigger blood vessel. Here the tumor is covered by endothel cells, but we can not identify any unchangeable invasion of the town. The biggest diameter of the tumour is 22 mm, maximum thickness 11 mm, infiltration deepness. The tumour mostly was situating on the left side, however it is expanding beyond the median.

Other findings

Bilateral chronic sclerotic sialoadenitis in the submandibular glands. Sinus histiocytosis in all examined lymph nodes.

Histopathologic diagnosis

Well-differentiated keratinized epidermoid invasive carcinoma originating from the mucosa of the mouth floor with local invasion in the sublingual gland, sublingual musculature, periosteum (Fig. 3).

Discussions

Carcinoma therapy varies from case to case and depends mostly on the tumour extension. According to some authors a decisive guideline in the choice of therapy is the maximum preservation of the oro-facial system. The minimal invasive therapy, known as brachytherapy is strictly reserved to small tumour lesions (T1–T2)[6,9]. For extensive lesions surgical therapy remains the only option. That was also the option for our presented case, a radical removal of the tumour and a part of the mandibular bone. This projects in the future the development of the treat-

ment following the patients desire to recover the dento-maxillary functions [5]. It is well known the fact mandible has an important role in protecting the superior airways of the respiratory system, is support for the tongue, oral floor muscles and lower jaw teeth have their important role in chewing, swallowing, phonation and respiration. Loss of mandibular bone and its continuity results in both aesthetic and functional deformities [8].

Clearly the first step in rehabilitating the patient who underwent a malignant tumour of the oro-facial system removal is the surgical reconstruction of the mandibular continuity. Prosthetic rehabilitation of the dental arch and is attributes represents the final step in solving the functional and aesthetic impairment and providing the necessary condition for a normal life in the best possible conditions.

Conclusions

1. Epidermoid carcinoma is a malignant lesion of the oro-facial system that can be related to the existence of predisposant factors as smoking, alcohol abuse and the existence of an immunodeficiency.
2. Insidious evolution leads to the lately discovery of the lesion, to the lack of specific incipient therapy and the choice of radical measures that influence functional impairment and quality of life alteration.
3. Surgical intervention in combination with radiotherapy can offer a solution but presents a high degree of associated deformities.
4. Prosthetic rehabilitation is the final goal that can restore the affected functions and continuity of life in decent conditions.

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