



## CHAPTER 38

# The role of the dentist in the diagnosis of mucoepidermoid carcinomas of the parotid glands

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## ABSTRACT

Mucoepidermoid carcinoma is the most common malignant salivary gland tumor in the oral cavity and affects mainly the parotid gland. Regarding its epidemiology, the incidence of MSC is higher in females and the mean age of patients is 45 years with

a peak between the 4th and 6th decades of life. The clinical behavior of MSC is highly variable, ranging from indolent tumor growth to highly aggressive metastatic spread. However, the prognosis will depend considerably on the clinical stage of the lesion, its anatomical location, the histopathological grade and the treatment adopted. Given this, the objective of this study was to discuss the importance of the role of the dentist in the early diagnosis of mucoepidermoid carcinoma in the parotid gland and the result in the prognosis. As for the methodology used, it consists of a narrative literature review, through a search in Google Academic, Scielo, BVS, PUBMED. The diagnostic method is done through palpation, but as there are several differential diagnoses, it is essential that an incisional biopsy is performed for histopathological analysis. It was found that the participation of dentists brought several benefits related to the prognosis of patients with mucoepidermoid carcinoma, due to the possibility of metastasis or the simple fact that it is a malignant tumor and compromises the parotid gland, the dentist's role in diagnosing clinical signs early is essential for a favorable prognosis.

**Keywords:** Mucoepidermoid carcinoma, Parotid gland, Dentist.

## 1 INTRODUCTION

At neoplasms in glands salivary constitute a group rare in tumors, corresponding The about 3 The 5% of all head and neck tumors (Gonçalo, et al., 2020). This low incidence may be related to ethnic and geographic. fence in 80% in all at neoplasms in gland salivary (NGS) are benign, being at evil most rare (Costa, et al., 2020).

The main benign histological types are: pleomorphic adenoma, Warthin's tumor, myoepithelioma, cell adenoma basal and oncocytoma. In between you types evil you main are: carcinoma adenoid cystic, mucoepidermoid, ex-adenoma carcinoma, acinic cell carcinoma, myoepithelial carcinoma, adenocarcinoma, basal cell carcinoma (Melo, et al., 2017).

O carcinoma mucoepidermoid (CME) hits fence in 2.8% The 15% From cancers salivary, being, therefore, O type more common in that place. (Kansou, et al., 2021). O CME It is O tumor most common

in gland parotid, attacking most you female individuals. The mean age of patients with NGSs is 45 years with a peak between the 4th and 6th decades of life (de Vasconcelos, et al., 2020).

Histologically, they are classified into low-grade tumors (cystic lesions, rich in mucous cells, well-circumscribed), intermediate-grade (generally more solid and less circumscribed), and high-grade tumors (nuclear anaplasia, necrosis, increased mitotic index, and bone invasion). , perineural and lymphovascular) (El-Naggar, et al., 2017).

The etiopathogenesis of carcinoma in some cases may be associated with genetic factors or exposure to radiation and/or habit. in smoke. O tumor epithelial if originates gives reservation in cells of duct excretory, O which O behavior biological varies from low to high level. However, all levels are capable of metastasis (Gomes, et al., 2015).

According to Vergara (2021), the 10-year overall survival rates for low-, intermediate and high-grade MSCs correspond to 90%, 70% and 25%, respectively, but low-grade mucoepidermoid carcinoma has a low risk of regional metastasis. and remotely, therefore, its treatment corresponds to oncological surgical resection, with a safety margin, without the need for adjuvant therapies such as radiotherapy or chemotherapy, with a good prognosis and without relapses, in 90% to 98% of patients with isolated resection surgery.

Diagnosis is based on clinical analysis and complementary tests, the main ones being magnetic resonance imaging and fine needle aspiration, often guided by ultrasound. Computed tomography does not have a prominent place in the evaluation of these parotid tumors. (Bonfils, et al., 2017).

Its clinical presentation is variable, it is usually seen as a painless mass with or without facial deformity, with an association of painful symptoms, paresthesia, dysphagia, trismus or adenopathies. However, it can also present asymptotically (Lévano, et al., 2021).

The primary treatment of malignant tumors of the parotid gland is usually surgical. The extent of surgery depends on the histopathological type. With the correct preoperative diagnosis, a better assessment of the possible extent of surgery he can help O surgeon at the planning preoperative and at the counseling to patient, already what O emptying neck and facial nerve sacrifice may be necessary in the case of a malignant tumor. Although imaging techniques provide much information for The evaluation From tumors gives gland parotid, O exam histopathological or cytological he must to be used for correct surgical planning (Altin, et al., 2019).

Thus, the present study aims to discuss the importance of the dental surgeon in the early and safe diagnosis of parotid mucoepidermoid carcinoma, demonstrating the importance of a previous diagnosis and its implications for the prognosis.

## 2 METHODOLOGY

The present study is a narrative literature review. According to Santos (2021), this methodology does not use explicit and systematic criteria for the search and critical analysis of the literature. The search for studies need not exhaust the sources of information. No apply strategies in search sophisticated and exhaustive. THE selection From studies and The interpretation of information may be subject to the authors' subjectivity. Addressing, in a qualitative way, the role of the dentist in the diagnosis precocious of patient carrier of carcinoma mucoepidermoid in region in gland parotid. In wake up with Galvão (2017), research with qualitative methods provides detailed descriptions of complex phenomena, including their contextual aspects.

O lifting bibliographic he was accomplished through gives base in Dice of: Google academic, SciELO, VHL and PUBMED, locating scientific articles in the time interval from 2015 to 2022 that contributed to the elaboration of this study.

By having as criteria in inclusion: reviews in literature, reviews systematic and reports in case what approach The analysis of the early diagnosis of mucoepidermoid carcinoma in the parotid gland by the dental surgeon.

While the exclusion criteria were: book chapters, monographs, course conclusion works, conference proceedings, and articles that did not reconcile with the topic addressed were discarded. In addition, publications in Portuguese, English and Spanish were searched.

Searches were first carried out through the keywords in the databases, then the reading was performed. From titles what evidence O paper of surgeon- dentist at the diagnosis of Carcinoma mucoepidermoid. Per The end, 35 articles were adopted from the reading of the full text to approach this job.

The search was performed with the following descriptors: [Mucoepidermoid Carcinoma]; [Parotid Gland]; [Dental surgeon];

## 3 RESULTS AND DISCUSSION

Between the years 2015 and 2022, 248 articles on the topic were identified, which were selected by the year of publication, title and usefulness of the content for the objective. After that, 33 articles were adopted that met the inclusion criteria, addressing the topic of diagnosis of mucoepidermoid carcinoma in the parotid gland.

The scientific literature addressed in this review found the importance of the role of the dentist in the favorable prognosis of patients with MSC when performing an early diagnosis. Of the 33 articles chosen, 22 analyze the behavior of mucoepidermoid carcinoma and its diagnostic methods, 4 report the pattern of head and neck tumors, focusing us what attack at glands salivary, 5 present O pattern epidemiological of CME and 3 discourse about cancer treatment mucoepidermoid.

According to Barradas (2018), mucoepidermoid carcinoma usually presents as an asymptomatic increase in volume, and can be clinically confused with a mucocele when in the minor salivary glands, and the presence of the lesion is usually perceived with a year or less of evolution.

According to Costa (2020), the clinical history of salivary gland tumors is commonly constituted by the description of painless and slow-growing masses. Regarding the clinical picture, parotid mucoepidermoid carcinoma has one presentation clinic based in a increase in volume, 34% From patients also presented pain, paralysis and trismus, and the main complaint was the presence of a painless nodule or facial bulging in 86.1%, followed by a nodule with local pain in 5.8%, ulceration in 1.7% and facial paralysis in 0.6%.

Freitas (2020), observed what O main symptom reported by the patients It is The presence in lesion nodular only in 100% of cases, O what corroborates with O what if he thinks at literature. THE presence in pain he was criticism in 16.7% From patients, and some studies relate this symptom in general to the presence of malignancy, as Altin (2019) also stated that in the most severe cases it is common to present more intense symptoms, such as pain, facial paralysis and ulceration of the skin. skin.

In addition, Morais (2019) argues that palpation by the dental surgeon is of paramount importance, as it is an excellent clinical parameter for the topographic location of the lesions, and even for their classification, in terms of malignancy. In agreement, Gurgel (2020) reports that the presence of nodular lesion was the most observed symptom in MSC, meaning that the detection for the palpation It is also a resource assistant effective. According Sousa (2019), O adenoma pleomorphic (AP) It is The The most common salivary gland neoplasm is a benign tumor, with the parotid gland as the most affected site. Clinically, a painless, fixed, slow-growing and firm swelling is observed on palpation. In agreement, Reis Fernandes (2019) also says what O adenoma pleomorphic It is The neoplasm benign most common gives gland parotid, representing about 60 to 70%, and with a higher incidence from the 4th to the 6th decade of life. Therefore, this lesion becomes one of the main diagnoses differentials for O carcinoma mucoepidermoid, per to possess O same place in involvement predominantly, in addition to similar signs and symptoms. Thus, the conduct in cases of clinical uncertainty is to perform a biopsy, which depending on the location of the tumor will be incisional or excisional.

Furthermore, Lima (2015) states that when we consider the spectrum of salivary gland neoplasms, we realize that they represent a diagnostic challenge for clinicians, surgeons and pathologists, demanding, in most cases, the execution of more invasive complementary procedures, such as fine needle aspiration (FNA) and incisional biopsy, in order to allow a detailed histological examination of its structure, in order to reach a diagnosis accurate.

Coelho de La Cruz (2020) reiterates other possibilities of differential diagnosis of MSC such as necrotizing sialometaplasia of the palate, mucocele, inverted papilloma or cystadenoma, cystadenocarcinoma, primary or metastatic squamous cell carcinoma and low-grade pleomorphic adenocarcinoma.

According to Barradas (2018), histopathologically, the MSC is composed of a mixture of mucus-producing cells, squamous cells (epidermoids), and also intermediate cells. Mucous cells are variably shaped but contain abundant foamy cytoplasm that stains positively with mucin stains, and epidermoid cells are characterized by resembling squamous cells, usually demonstrating polygonal shape, intercellular bridges, and, rarely, keratinization.

In concord, Rodrigues (2016) also says what O CME It is histopathologically compound in cells producers of mucus and cells epidermoids or scaly IT IS considered in low grade in malignancy When it presents atypia cell minimum with high concentration in cells mucous membranes and in high grade When it presents pleomorphisms and activities at mucosa, in addition in larger proportion of squamous cells that grow rapidly and accompany pain symptoms. The intermediate grade is composed of the three cell types and constitutes the most common histopathological type. All variables can develop metastases, which can infiltrate neighboring tissues, regional lymph nodes and even distant organs, such as the brain, bones and lungs.

According to Dutra (2017), the imaging findings of these tumors vary depending on the histological grade. On computed tomography (CT) low-grade (I) tumors present as a well-defined mass, with a cystic predominant, and a component solid any less expressive, with calcifications associated. Fur contrary, high-grade tumors (III) present as solid masses, with early contrast uptake, with irregular contours and infiltration of adjacent structures. Intermediate grade (II) tumors exhibit a pattern intermediate.

According to Altin (2019), fine needle aspiration puncture (FNA) is the test indicated for the cytopathological diagnosis, which has the function of differentiating between benign and malignant neoplasms, since cytology alone usually does not determine the definitive histological diagnosis. Salama (2015), in his studies on the salivary glands, reports that FNA accuracy of 97.4% was found for parotid tumors.

According to Pinheiro (2021), neoplasms of the major glands are staged according to the tumor classification. lymph node metastasis (TNM), While what at in GS minors are staged in wake up with The your localization. You studies in Image (CT, MRI) obtained before diagnosis can provide important information for staging. Clinical staging is determined from clinical information prior to initiating any treatment, based on physical examination, imaging studies and analyses. anatomopathological.

In agreement with Pinheiro (2021) and adding details about the staging, Amin (2017) states that the pathological staging provides more data than the clinical one, obtained after surgical excision of the tumor, with anatomopathological analysis of the neoplasm and lymph nodes. removed, which may differ (or not) from the clinical stage. The results of the TNM classification are combined to determine the stage of the cancer, divided into stages ranging from 0 and from I to IV.

After clinical analysis and complementary exams (FNA, USG, CT), Sheila Maria (2020) states that if the nature of the nodule is not elucidated, the next step is to perform a superficial parotidectomy with identification and preservation. of nerve facial, followed in exam in freezing, Where The lesion nodular It

is removed without The exposure gives your capsule, being indicated in lesions smaller than 4 cm, mobile and located in the superficial lobe of the gland. in cases of deep lobe involvement, total parotidectomy should be indicated, Choi, (2018) reports on the importance of surgical resection and says that it is still the method of choice in the treatment of malignant salivary gland neoplasms. For parotid lesions, the intervention indicated is parotidectomy with conservation of the nerve. facial.

According to Xavier (2020), the identification of precursor lesions of oral cancer in early stages allows for a more effective treatment, with less aggressiveness and, consequently, a longer survival. In view of this, Guedes, et. al. (2021) highlights The importance in a diagnosis precocious fur dentist for to guarantee O treatment adequate, prognosis favorable and better quality of life for the patients.

In wake up with Oliveira (2020), at the time of diagnosis, Many patients are Classified in stages advanced due to to fact gives illness to be generally asymptomatic us stages initials, O what takes The demand late per attendance and, this often compromises the prognosis. Therefore, the dentist is the key player in the detection of tumors in the initial phase, a crucial stage in the treatment of patients. Furthermore, in line with this, Fonseca (2020) states that the dental surgeon plays a role in the care of cancer patients, significantly helping to minimize the sequelae caused by the disease and treatments.

Wedge and gurgel (2020), agree that The main technique in diagnosis pointed It is through of maneuvers in inspection and palpation, Where per quite of these already if get up The suspect in neoplasm, confirming under O exam histopathological, in what in that.

In this question, it is noted the importance of understanding the most frequent locations, how and what are changes in the surface of the oral cavity, demonstrating, again, the importance that the dental surgeon needs to have sufficient knowledge to detect these changes.

Therefore, the dentist has the role of raising the suspicion of the diagnosis, by observing the characteristic behavior of Mucoepidermoid Carcinoma in the parotid gland through palpation, observation of signs and description of symptoms by the patient. In case of suspicion of the present pathology, the professional should request complementary imaging exams and accomplish biopsy incisional for prove The suspect, promoting so, a diagnosis precocious, but safe, in addition in perform the correct referral to the head and neck surgeon to follow up on the treatment.

#### **4 CONCLUSION**

In view of the analysis performed, the dentist has a fundamental role in the diagnosis of mucoepidermoid carcinomas of the parotid gland, because despite being considered a rare tumor, it is the most incident in this gland.

Thus, as it is considered rare, it is natural that professionals do not generally include it as a diagnostic suspicion, however, as it is a neoplasm and has the possibility of suffering metastases, the importance of early diagnosis and correct management of this pathology is emphasized to ensure adequate treatment and a favorable prognosis.

Therefore, the dentist is a key player in the diagnosis of tumors in the oral cavity in its initial phase, in addition in to be paramount your acting as a professional what accompanies in form multidisciplinary O patient during O your treatment. In addition from that, during The search he was notorious The gap what exists at literature about O paper of dental surgeon at the diagnosis of neoplasms evil. Of that form, it is done required what works futures address it is theme, bringing Dice statisticians in how many patients evolve for a painting in metastasis same being accompanied per dentists who did not initially diagnose the tumor.

Such research will serve mainly to alert professionals trained in dentistry to make them aware of responsibility in accomplish a diagnosis need in carcinoma in gland parotid, comprising what It is holder sufficient knowledge to perform such a feat, as it can prevent your patient from having an evolving neoplastic clinical picture without adequate treatment.

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