EJJMRMS ISSN: 2750-8587

# EUROPEAN INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH AND MANAGEMENT STUDIES

#### **VOLUME04 ISSUE02**

**DOI:** https://doi.org/10.55640/eijmrms-04-02-20



# A COMPREHENSIVE APPROACH TOWARDS EARLY DIAGNOSIS ODONTOGENIC CYSTIC FORMATIONS OF THE JAWS OF VARIOUS ORIGINS

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### ABOUT ARTICLE

**Key words:** Surgeons, radiologists and pathologists, odontogenic tissues.

**Received:** 04.02.2024 **Accepted:** 09.02.2024 **Published:** 14.02.2024 **Abstract:** Surgeons, radiologists and pathologists have been improving the classification of tumors and tumor-like formations of the maxillofacial region over the years in order to develop unified treatment protocols. The classification of tumors by origin and histological criteria is accepted all

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over the world.

### INTRODUCTION

Nevertheless, it is not easy to trace the origin of all variants of tumors and tumor-like processes in odontogenic tissues. This is mainly due to the peculiarities of some lesions and the lack of time to study and compare samples. Odontogenic tumors (OO) belong to a group of lesions originating from odontogenic tissues or their remnants, which progress from neoplastic formations to benign and malignant neoplasms with various invasive and metastatic potential [1, 2]. One of the main changes was the inclusion of odontogenic keratocysts among benign but locally aggressive epithelial odontogenic tumors, which They were renamed keratocystic odontogenic tumors (KCOT). Keratocystic odontogenic tumors are single or multicystic intraosseous tumors of odontogenic origin with characteristic parakeratosis of the multilayer squamous epithelium and the potential for aggressive, invasive growth [3] KCOT is one of the most consistent and common signs of the syndrome of cancerous basal cell non-cancerous carcinomatosis (NBCCS). It accounts for 65-100% of patients with odontogenic tumors.

Clinically, lesions are characterized by aggressive growth and a tendency to relapse after surgery. At the same time, increased mitotic activity and the possibility of formation of daughter cysts in the wall are noted. The presence of daughter cysts [6] has been studied as associated with recurrence of KCOT. The lower jaw is affected more often than the upper one, and the occiput is less common. To make a final diagnosis, it is necessary to conduct a histopathological examination of the removed tumor [13]. Patients with histopathological diagnosis of KCOT require further follow-up; to reduce the risk of recurrence after surgical treatment of patients with KCOT, subsequent X-ray examinations should be performed, especially during the first year, there are two methods of treatment for KCOT: conservative and aggressive. Conservative treatments include enucleation with or without curettage and marsupinalization. Aggressive methods include peripheral osteotomy, chemical curettage with Carney solution, and jaw resection [8]. To date, there is no clear understanding of the management of patients with CRT. According to some authors, simple enucleation may be the most appropriate method of treating CCT [9], others consider enucleation followed by sterilization to be an effective method of treating large keratocystic odontogenic tumors [11, 12]. The main method of treatment of odontogenic jaw cysts is cystectomy - surgical intervention. However, cystectomy or its modification may be necessary due to the peculiarities of cyst localization and its close connection with important anatomical formations located nearby [14]. Understanding the most common and rare odontogenic tumors could be of great help in their study and clinical treatment. Assessment of the incidence of tumors in different populations is important for preliminary diagnosis and further planning of biopsy based on clinical and radiological features. It is also useful for patient counseling and treatment planning. Knowledge of the histological and clinico-pathological features of various odontogenic tumors (described in various manuals around the world) can help identify risk groups and factors that may be associated with biologically complex structures [2]. The aim of the study was to study the behavior of odontogenic cystic formations of the jaws, analyze a series of histologically and radiologically confirmed cases and choose a treatment strategy for patients. MATERIALS AND METHODS The data of anamnesis and radiography of patients with odontogenic cystic formations of the jaws who were on inpatient treatment at the clinic of Maxillofacial and plastic surgery of the Russian State Medical University named after Academician I. P. Pavlov were used. The data collection was carried out over two years from 2012 to 2013. Age, gender, localization, histological examination data and type of surgery were tabulated and analyzed. The study was based on the histological classification of tumors by WHO 2005. taking into account the clinical and histopathological information and the classification of jaw cysts by origin, taking into account the etiology. In doubtful cases, the name and address of the patient were indicated in duplicate, and a repeat examination was requested to determine a relapse. Results Of 110 analyzed

ISSN: 2750-8587

cases, the most common types of cystic formations were inflammatory radiolabial cysts (76.4%) and cysts with signs of epithelial keratinization (23.6%). 30.9% of cysts were localized in the body of the mandible, mainly in the molar and epiphyseal regions. 43.6% of cysts were localized in the upper jaw, with rare exceptions - 4.5% in the maxillary sinus and 20.9% in the branch and corner of the lower jaw. Ameloblastomas and keratinized cystic odontogenic tumors were more often localized in the lower jaw. The average age of the patients was 35.2 years. The peak incidence (47.3%) occurred in the fourth decade, between 41 and 60 years. The overall ratio of men and women was 1:1.3. Histological examination showed that the lumen of the cysts contained inclusions of various viscosities - from a straw-colored liquid to a thick sour cream-like mass, in 4.5% of cases - pus and cholesterol inclusions. Flat keratotic and orthokeratotic cysts with invasive growth were found in 23.6% of cases. The proportion of cysts without keratinization and inclusion bodies was 71.8%. Surgical treatment in the volume of excision of the cyst wall was performed in 52.7% of cases, removal of the entire cyst and capsule - in 47.3% of cases.

ISSN: 2750-8587

### **CONCLUSION**

The developed combined approach based on the storage of available histological and X-ray data made it possible to monitor patients for atypia and recurrence of cystic formations. To facilitate the diagnosis and treatment of patients, it is recommended to create a central registry of tumors. A retrospective analysis of the relative incidence of odontogenic cystic formations in the jaws would help maxillofacial surgeons, maxillofacial surgeons and pathologists understand the pathogenesis. In general, this problem requires further study and collection of new data.

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