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Case Report

Maxillary Keratocyst. Descriptive Study

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Abstract

Keratocysts are the second most frequent odontogenic cyst to appear, when a relationship is made of the location of these lesions, it is reported in the literature with a lower incidence and frequency of their location in the Maxilla. That is why a descriptive study of Maxillary Keratocysts was carried out in the Maxillofacial Surgery service of the XXI Century, National Medical Center. During the one-year period (January to December 2019), having a universe of 8 patients, of which only 2 patients presented with Maxillary Keratocyst, the rest were located in the mandible. The management given to the two maxillary Keratocysts was with enucleation and curettage of the lesions with total closure of the surgical bed, afterwards postoperative control was performed without presenting recurrence of the lesion.

Introduction

Keratocysts were classified by the World Health Organization as odontogenic cysts that develop from non-inflammatory tissue from the cellular remains of the dental lamina [1,2]. They are made up of remnants of odontogenic epithelium [3,4,5]. According to Chirapathomsakul and Zachariades, among other authors, they report that Keratocysts are the second most frequent odontogenic cyst, followed by the Dentigerous cyst, presenting from 3 to 11%; followed by the Dentigerous cyst [6-9] according to Echeverría constitutes approximately 8% of all maxillary cysts, [410] It is more frequent in the branch and mandibular body than in the maxilla [4,5,7,11] being approximately between 60 and 70% of the cases in the jaw [4,5]. Waldron reports a 2: 1 jaw: maxilla ratio and occurs only in 13% of cases [12]. Keratocysts are generally asymptomatic, however it has been reported that occasionally some cases may present symptoms such as increased volume or inflammation, fistula with or without drainage, and pain has rarely been recorded [13,14]. Some are diagnosed as radiographic findings since they remain asymptomatic until patients undergo a radiographic review during their clinical examination, may or may not be associated with syndromes, mainly basal cell carcinoma syndrome (Gorlin Goltz) [1,15] Radiographically, it is generally seen as a well-defined solitary lesion that usually has multilocular/ polycystic radiolucencies with a delimited border, a thin cortical halo is usually observed, unless there is inflammation or the affected cortical bone is broken, it can be corroborated the dimensions with a computed tomography to have a better view of the size of the lesion taking into account the height, width and depth, as well as the involvement or relationship with adjacent structures [4,7,16,17]. The confirmatory diagnosis will be through a histopathology study, an incisional biopsy is generally performed, depending on the size of the lesion, in order to adequately treat the lesion. It is reported as a cystic lesion with an epithelial capsule that can be parakeratinized (in 80% of cases) or orthokeratinized (20%); in a palisade, with a thickness of 5-8 cell layers, with basophilic nuclei (seen microscopically with H&E staining) and present a flat epithelial-mesenchymal junction [9,12,14,18]. Treatment for Keratocysts can be conservative or radical surgical, many authors cite enucleation and curettage as the most used option with or without irrigation [7] Marsupialization [16,19] decompression managing it as an open cavity, or with valve decompression [20] of different materials (silicone, plastic or metal) including the use of prostheses for phonation with decompressive purposes for reduction [20-22] and radical surgical management with resection [9,23]. inclusive, it is mentioned that in maxillary keratocysts with extension and involvement of the maxillary sinus, the Le Fort I or Caldwell-Luc osteotomy technique can be used [9] to have a better vision and scope. Or the combined handling of one or more techniques [24-28] The last decision will be made by the surgeon who is in charge of the case and the patient, based on the characteristics it presents and adapting the best treatment for each patient's case.

Materials and Method

A descriptive, observational, cross-sectional study was carried out for one year (from January to December 2019), in the Maxillofacial Surgery service of the XXI Century, National Medical Center, of patients with a diagnosis of maxillary Keratocyst. Reporting the clinical and radiographic characteristics as well as the management that was given. The inclusion criteria were those patients regardless of gender (female or male) who had a keratocyst delivery or histopathological diagnosis, regardless of significant pathological personal history, who were of legal age. A database with the main signs and symptoms was collected and created. Subsequently, all patients underwent an incisional biopsy of the lesion, then a histopathological study was sent, and having a confirmatory Keratocyst result, management was performed by our service. The cases that presented Maxillary Keratocysts were counted and post-surgical treatment and control were granted. A representative case of one of the patients diagnosed with Maxillary Keratocyst is presented.

Case Report

This is a female patient of the 6th decade of life, without significant pathological personal history, who is asymptomatic, the reason for the consultation is that the patient has noticed that an area of the maxilla has grown thinking of an infectious process is sent to Maxillofacial Surgery of the XXI Century, National Medical Center, however, when performing the anamnesis and the review, we realized that there are no data compatible with an infectious or inflammatory process. The patient presented clinically with a normocephalic skull, integuments of adequate color and hydration, intraorally: mucosa of adequate color and moisture, incomplete secondary dentition, presence of dental restorations, a slight increase in volume was observed in the maxilla at the level of the upper molar region left, with edentulous gap, therefore it is not associated with any tooth, on palpation it feels globular crackling, with discreet expansion of cortices predominantly to the buccal surface, an orthopantomography is requested (Figure 1, indicated with keys as 1 and 2) where two radiolucent areas with well-defined mixed areas with a discrete radiopaque halo in the upper jaw on the left side are observed, one with dimensions 1.9cm x 1.4cm and the other 2.4cm in length x 1.3 in height, so it is suspected of any cyst, a biopsy is performed under local anesthesia and it is sent to pathology where they diagnose it as Keratocyst. Subsequently, a pre-surgical protocol is performed and the enucleation and curettage of the lesion is carried out

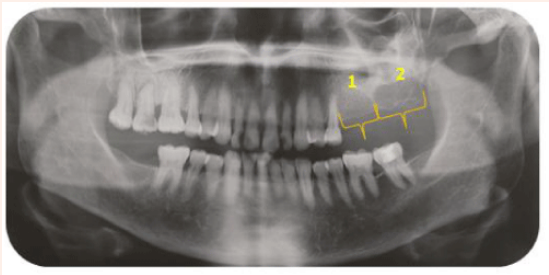

Figure 1: Orthopantomography with two left maxillary Keratocysts (numbered and marked with braces).

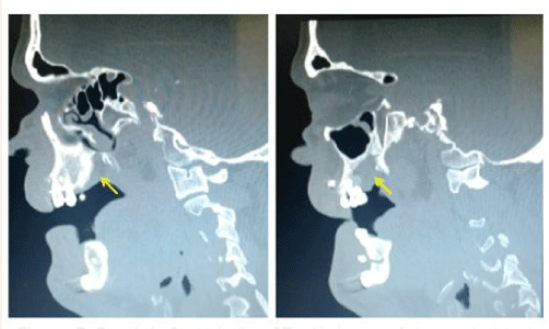

Figure 2: Sagittal slice CT with image of the surgical bed, without images suggestive of lesion persistence (Yellow arrows).

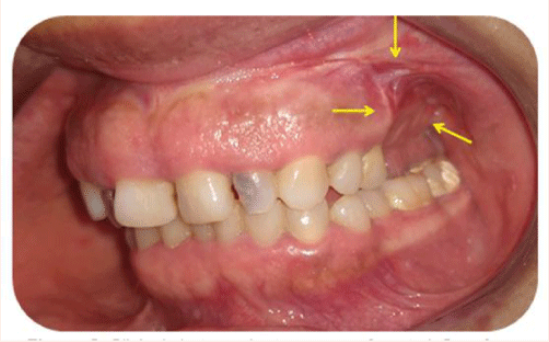

Figure 3: Clinical photograph at one year of control. Scar from surgical approach and no recurrence data (yellow arrow).

under balanced general anesthesia without any complications, the surgical site is sutured with a 3-0 absorbable suture based on vycril, and a revision is performed at one week. Postoperative period, the bed being observed without complications, an appointment was made after two weeks and a computed tomography was requested (Figure 2, panel 1), where two representative images of sagittal sections of the tomography were observed, where the surgical bed was observed without data suggestive of recurrence. of the lesion, the control is continued every month until reaching three months, later at 6 months, and finally the intraoral image of the post-surgical control is presented one year after performing the surgical procedure (Figure 3) where the scar mark of the Approach without dehiscence data, without fistula or any exudate outlet, with adequate evolution and healing, without increase volume. At the moment, the patient continues with periodic clinical and radiographic control once a year, maintaining no recurrence.

Results

A total of 8 patients with clinical characteristics were presented to the Maxillofacial Surgery Service of the XXI Century, National Medical Center (volume increase in different degrees of the maxilla or mandible according to the presentation of the Keratocyst, crackling, in some cases fluctuating, some with creaking of "eggshell", one with fistula and discharge of purulent exudate, one associated with Gorlin-Goltz syndrome, some with cortical expansion and slight increase in volume clinically) and imaging (cortical expansion, radiolucent areas, some with radiopaque halo and mixed images, in the maxilla and mandible, one in both) of keratocysts, which were diagnosed by incisional biopsy with a pathological study such as: odontogenic keratocysts; of which only two were Maxillary Keratocysts, both on the left side, the rest of the keratocyst patients were located in the region of the body and / or mandibular branch, with no predominance on either side (right or left). The two maxillary keratocysts were treated by enucleation and curettage, review and imaging controls were given without presenting one year after their treatment, recurrence.

Discussion

The present study shows similarity to that of Brondum and Jensen when using enucleation and curettage as treatment, only that unlike these authors, we did not manage the open cavity with irrigation, but on the contrary, the "clean" surgical bed was verified and the flap was sutured, leaving a closed surgical site. Like Jaime and Jaramillo, among other authors, we agree that enucleation and curettage are an adequate treatment for Keratocysts, mainly for those of small size, as is the case we present. Many authors refer to the infrequency of Maxillary Keratocysts, which has been demonstrated with this article, carried out at the Maxillofacial Surgery service of the XXI Century, National Medical Center, coinciding with studies such as that of Waldron who reports a lower incidence and relationship between Maxillary Keratocyst and mandibular with predominance in the latter. Odontogenic cysts are considered benign lesions, however, since they are aggressive or have a high recurrence, such as Keratocyst, it is essential to act early and diagnose them promptly in order to provide adequate management and, if possible, to limit (with treatment) their expansion or growth. Three-quarters of the patients included in the study were asymptomatic, and the rest presented minimal discomfort, mainly referring to pressure or occasional dental pain that ceased when avoiding thermal shock and after root canal treatment.

Conclusion

The present study is of importance given that in the literary review the Keratocyst located in the maxilla is found less frequently; the above coincides with that obtained with this study carried out at the Maxillofacial Surgery service of the XXI Century, National Medical Center. It is important to have a timely diagnosis, and to have cabinet studies that will serve us as auxiliaries, to later perform biopsies and send them to the pathology service, by having a confirmatory diagnosis of these maxillo-mandibular injuries, management and treatment can be offered accordingly to the case. Keratocysts are benign lesions that can be very aggressive, they appear mainly in the mandible, however there are also cases in the maxilla, such as the one we present. They have a high recurrence, so it is extremely important to maintain periodic clinical and radiographic controls in order to rule out the possibility of having the lesion again. There are numerous procedures for Keratocysts, in this case, enucleation and curettage were chosen, since they were two lesions of relatively small dimensions, well defined, in an edentulous area, therefore the possibilities that there are structures that interfere with their removal were null, it was verified during the surgical time and later with the tomography that there were no data suggestive of recurrence of the lesion, remembering that Keratocysts can present satellite lesions, finally, long-term control must be maintained with patients diagnosed with Keratocysts since the highest recurrence rate occurs between 5 and 10 years after its removal.

Conflict of Interest

Neither the authors nor any member has a financial or interest relationship (currently or in the last 12 months) with any entity producing, marketing, reselling or distributing health care products or services consumed by, or used in, the patients.

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