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RESEARCH ARTICLE

THE CASE OF THE KERATOCYST HISTOLOGICALLY ON THE MANDIBLE IS RADIOLOGICALLY PROVEN

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ABSTRACT

In this report, we present a case of radicular keratocyst in a patient at the age of 46 who was admitted to the clinic for maxillofacial surgery with the formation of the mandible. The patient's jaw undergoes decompression to reduce the risk of fracture in emergency surgery. The diagnosis was confirmed by histological and radiological examination. One month after surgery, the cystic formation was removed without fracture, and no reconstruction plate was required.

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INTRODUCTION

One of the most controversial pathological entities in the maxillofacial pathology is the odontogenic keratocyst (OKC). The case presented is to a patient who, three years ago, after unsuccessful treatment and extracted lower molar, had an extirpated radicular cyst. The patient reported that the extraction wound was not healing and abscesses were present in the area. Radicular cysts originate from the epithelial remnants of the periodontal ligament as a result of inflammation and associated infiltration of inflammatory cells, which is usually a result of pulp necrosis. Radicular and residual cysts are the most common cystic lesions of the jaws. The residual cyst appears after tooth extraction in edentulous areas, with the most common clinical symptom being painless swelling (Ezsiá's, 1994). The most common location of radicular cysts is the upper jaw, in the premolar area (Gerhards, 1998), while the residual cyst is of symptomatic appearance and location in the anterior region of the lower jaw (Boffano, 2013). The treatment procedures for OKC remain a matter of controversy.

To our knowledge, there is no proof in the literature to guide surgeons in the decision of the best treatment. Professionals draw conclusions based upon their own medical experience when deciding on the most appropriate or commonly-used treatment procedure, enucleation (Coletti, 2008). It is linked to a great percentage of relapse. Decompression and marsupialization are put into practise as conservative treatments for OKC (Worrall, 1992). A number of clinicians do not agree with the use of these techniques, basing their statement on the possibility of residual cystic tissue remaining, which might subsequently facilitate recurrence. For that reason, a more aggressive manner might decrease the danger of relapse. It is suggested that aggressive resection should be restricted only to CCCs that have developed more than twice or the ones that have experienced malignant transformation. Radical excision (Worrall, 1992) is recommended as the decision for treatment for CCCs that have been cortically perforated, while Gosau et al. (2010) report enucleation plus curettage with cure solution resulting into a recurrence rate statistically worthy of comparison to resection excision. Jackson et al. (1993) identify that the complete excision of OKC is correlated to soft tissue involvement. Hence, there is instability in the decision-making pattern for resection of treatment, also, surgical approaches differ between conservative and more aggressive treatments (Gosau, 2010).

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Fig.1. Cyst on admission



Fig.2. Cyst during decompression



Fig. 3. The cyst after decompression

MATERIALS AND METHODS

The case presented is to a patient who, three years ago, after unsuccessful treatment and extracted lower molar, had an extirpated radicular cyst. The patient reported that the extraction wound was not healing and abscesses were present in the area. She underwent a biopsy, resulting in fat and muscle fibroids with necrotic changes and hemorrhages. The patient undergoes decompression intervention and surgical treatment to remove cystic formation. According to anamnezical data three years ago, due to unsuccessful treatment and lower molar extraction, a radicular cyst was extracted. The patient reported that the extraction wound was not healing and abscesses were present in the area. She consulted an oral surgery specialist who took an incision biopsy and the result was soft tissue, fat, muscle and fibrotic tissue with necrotic changes and bleeding. When the patient was admitted to the clinic, we considered this result to be unreliable and therefore took a re-incision biopsy, which proved the presence of a mandible cyst. The patient is very concerned that surgery will result in a fracture of the mandible. The patient is informed that such a complication may occur in such cases. As a treatment plan, it was selected in the first stage to decompress the entity under local anesthesia and to install a tubing to reduce volume, as well as to avoid high tension and possible fracture of the mandible. One month after the intervention, the patient underwent surgical treatment to remove the cystic formation, which did not produce a fracture and did not require the placement of a reconstructive plaque and bone graft removal from a crystalline iliac.

RESULTS

The cystic formation is removed without jaw fractures and without the need for placement of a reconstructive plate. A bone graft was obtained from the cyst or iliac for histological confirmation of the diagnosis. The histological result after surgery confirms the diagnosis of a keratocyst of the mandible on the right.

DISCUSSION

One of the most controversial pathological entities in the maxillofacial pathology is the odontogenic keratocyst. Awareness of CCP treatment methods has developed over the last thirty years, however, the outcome persists to be controversial. Basis of this is that the lining of the OKC is generally thin and elastic, removing the cyst in one piece could be difficult, especially for large OKCs with multilocular lesions. Application of adjunctive therapy procedures would frequently followenucleation and reduce the incidence of relapses by up to 10%. Decompression and marsupialization are put into practise as conservative treatments for OKC, each one of which are beneficial in certain cases (Coletti, 2008). Both of the techniques present with the advantages of vastly decreasing the volume of the cyst and the risk of injury to specific structures, including teeth or the lower dental nerve (Gerhards, 1998). After marsupialization, the OKC wall in most cases experiences histological and immunohistochemical alterations and might transform into a normal oral mucosa without inherent aggressive factors, that could explain the lower recurrence rates in patients treated through this method (Gosau, 2010). Nevertheless, the two means require a prolonged period of treatment with multi-level procedures.

The purpose of current report is to present a method of intervention in the case of a diagnosed patient with a mandibular keratocyst.

The high proportion of cases of OKC recurrences explains the trend of some surgeons to terminate the disease through a single radical surgical approach.

Conclusion

Dontogenic keratocyst requires a longer treatment period with multistep procedures. The disease requires well-conducted randomized controlled clinical trials. In practice, both conservative and more aggressive methods of surgical treatment are encountered, and it is more acceptable to start with a conservative approach. Long-term monitoring of the patient's condition is an important observation for possible relapse.

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