

Immediate Rehabilitation of Elderly Patient with Large Proportion Residual Cyst

Reabilitação Imediata de Paciente Idoso com Cisto Residual de Grande Proporção

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Abstract

Residual cyst is consequence of a radicular cyst incomplete removal. This paper presents the case of a patient with residual cyst of unusual size located in the pre-maxilla causing large bone defect rehabilitated by titanium mesh. A 78-year-old male patient with good general health sought treatment reporting maladjustment of the upper dental prosthesis due to a volumetric increase with one year of evolution. Patient history and clinical and complementary exams led to diagnosis of residual cyst. Due to the cyst size and bone resorption, after the lesion removal, a titanium mesh was fixed and a membrane positioned, in an attempt to reduce bone deformity and induce tissue repair to avoid functional and aesthetic sequelae. The treatment restored maxillary sinus health and provided satisfactory aesthetic contours to the patient's face, enabling a proper prosthetic rehabilitation and proved to be a viable alternative for the treatment of similar cases.

Keywords: Maxillary Sinus. Odontogenic Cysts. Surgical Mesh.

Resumo

O cisto residual é consequência da remoção incompleta de um cisto radicular. Este artigo apresenta o caso de um paciente com cisto residual de tamanho incomum localizado na região pré-maxilar causando grande defeito ósseo reabilitado com uso de tela de titânio. Paciente do sexo masculino, 78 anos, com boa saúde geral procurou tratamento com desajuste da prótese dentária superior, devido a um aumento volumétrico com um ano de evolução. A história do paciente e exames clínicos e complementares levaram ao diagnóstico de cisto residual. Devido ao tamanho do cisto e à reabsorção óssea, após a remoção da lesão, uma tela de titânio foi fixada e uma membrana posicionada, na tentativa de reduzir a deformidade óssea e induzir a reparação tecidual para evitar sequelas funcionais e estéticas. O tratamento restaurou a saúde do seio maxilar e forneceu contornos estéticos satisfatórios para a face do paciente, permitindo uma reabilitação protética adequada e provou ser uma alternativa viável para o tratamento de casos semelhantes.

Palavras-chave: Cistos Odontogênicos, Seio Maxilar, Telas Cirúrgicas

1 Introduction

When a radicular cyst is not removed after extraction of a tooth with apical periodontitis, the remaining lesion within the maxillar or mandibular bones configure the residual cyst.¹⁻⁶ They are asymptomatic, most commonly found in the maxilla and represent about 10% of the odontogenic cysts.^{1,5}

Treatment selection depends on the cyst size and location and may involve curettage, enucleation or endoscopic surgery in cases extended into the maxillary sinus.⁶

The case of a patient with residual cyst of unusual size located in the pre-maxilla causing large bone defect rehabilitated by titanium mesh is presented.

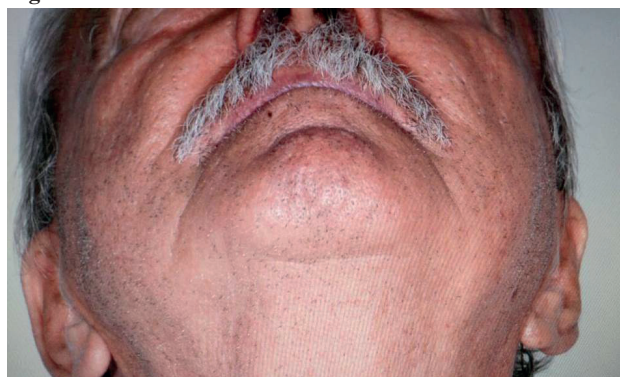
2 Case Report

A 78-year-old male patient with good general health sought a private maxillofacial surgery service reporting maladjustment of the upper dental prosthesis due to a painless

volumetric increase with one year of evolution.

The extra-oral examination showed a volumetric increase in left hemi-face not interfering with mouth opening (Figure 1).

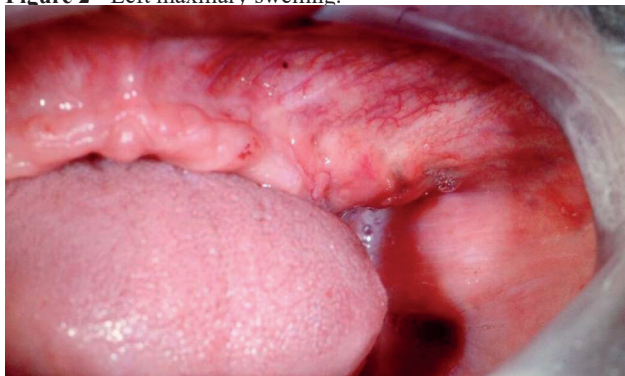
Figure 1 - Left facial volumetric increase.



Source: Authors.

Intraoral examination revealed that the patient was edentulous with healthy and normal colored mucosa. There was a volumetric increase in the left side of the maxilla (Figure 2) causing dental prosthesis maladjustment.

Figure 2 - Left maxillary swelling.



Source: Authors.

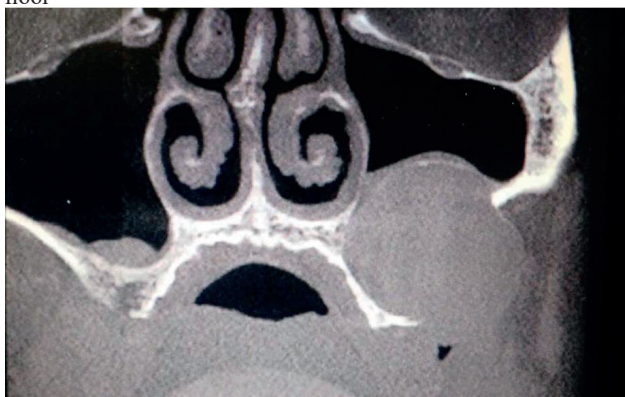
An intraosseous lesion limited to the left maxilla was shown in the CT scan. The lesion caused maxillary sinus compression, with the cortical bone expansion of its anterior wall (Figure 3) and floor displacement in the upper and medial direction, compressing it (Figure 4). Disruption was also observed of the continuity of maxillary sinus bone wall in certain areas.

Figure 3 - Buccal expansion of the maxillary sinus anterior wall.



Source: Authors.

Figure 4 - Upper and medial displacement of the maxillary sinus floor



Source: Authors.

The clinical and imagiological characteristics led to the provisory diagnosis of cystic lesion. An aspiration was then performed, resulting in the presence of yellowish brown liquid with traces of blood, characteristics of cystic fluid (Figure 5). The clinical, imaging and aspiration results led to the option for the surgical enucleation of the lesion.

Figure 5 - Aspiration with cystic fluid characteristics.



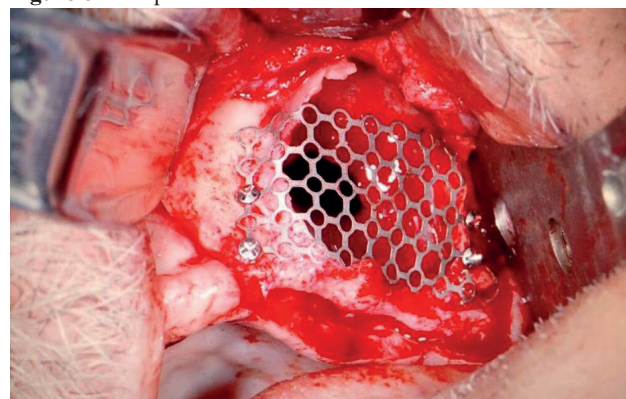
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Enucleation was performed under local infiltrative anesthesia. The anterior wall of the maxillary sinus was exposed by a trapezoidal flap and osteotomy with spherical diamond drill created an access window to the cyst. A new aspiration and detachment of the cyst epithelium from the walls of the maxillary sinus were performed and it was possible to see the oroantral communication.

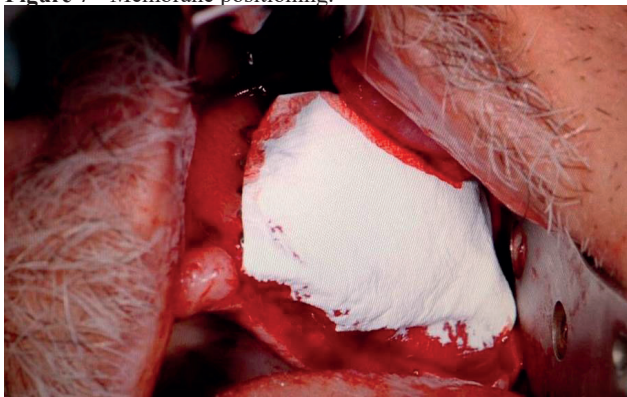
The anterior wall of the left maxillary sinus was reconstructed with titanium mesh fixed by monocortical screws, intending to reduce bone deformity and induce tissue repair to prevent serious morphological and functional sequelae.

The titanium mesh was modeled and installed on the bone defect region (Figure 6), fixed with four 2.0x4mm monocortical screws and a BioGuide 25x25mm membrane (Geistlich Pharma, São Paulo - SP, Brazil) was positioned over it (Figure 7). Sutures were made with nylon 6-0 (Shalon, São Luiz dos Montes Belos - GO, Basil) and polyglactin 910 5-0 (Vicryl - Ethicon, California - FL, USA).

Figure 6 - Adaptation and fixation of titanium mesh.



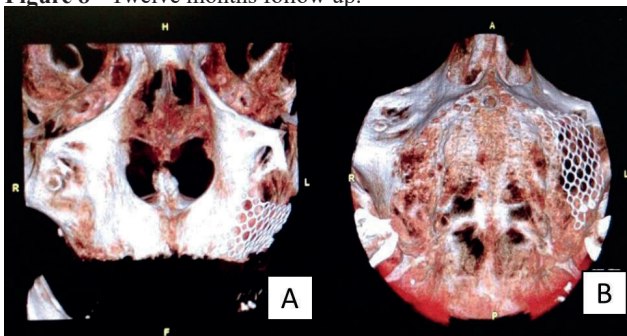
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Figure 7 - Membrane positioning.

Source: Authors.

The specimen was sent for histopathological analysis, confirming the diagnosis of residual cyst.

Patient has been followed for twelve months without signs of cyst recurrence and the titanium mesh is well positioned (Figure 8).

Figure 8 - Twelve months follow up.

Source: Authors.

3 Discussion

The residual cyst occurs due to incomplete surgical removal of a tooth or root with apical periodontitis.¹⁻⁶ Incomplete removal or non-removal of the periapical lesion can lead to the formation of a residual cyst over time. After a few years, the cyst size can regress, remain unchanged or increase.²

Radiographically the lesion is characterized by a radiolucent well defined unilocular structure in an edentulous area. A detailed study of clinical, histopathological and radiological findings is important, as there are numerous cysts that are clinically and radiographically similar. The clinical and histological characteristics of residual cysts are the same as the radicular cysts, except for the presence of associated teeth.⁴

It is very rare for patients to voluntarily show up with the single complaint of residual cyst because they are usually asymptomatic, often diagnosed after routine clinical and radiographic examinations.^{2,4,6}

In the present case, the patient had history of tooth extraction in the cyst area and even noticing the volumetric increase in the maxilla, he only sought treatment after the

volumetric increase interfered with the adaption of the dental prosthesis.

Mandibular canal, teeth, maxillary sinus floor and other anatomical structures can be diverted due to the slow growth of the cyst over time.⁴ In the present case there was compression of the maxillary sinus space and projection of bone corticals.

Some treatments have been proposed for the residual cyst. Among the most common are marsupialization and enucleation, depending on the cyst size.⁶ In the presented case, due to the size and location, the cyst enucleation was performed. For repairing the defect, a titanium mesh was fixed and a membrane positioned, in an attempt to reduce bone deformity and induce tissue repair to avoid functional and aesthetic sequelae.

4 Conclusion

Residual cyst is a usually asymptomatic expression of a radicular cyst improperly removed. Depending on its size, surgical removal can cause important aesthetic and functional deformities. In this case a titanium mesh and membrane were used to replace the maxillary sinus wall damaged by the residual cyst and to devolve its shape and contour after the cyst removal. The treatment restored the maxillary sinus health and provided satisfactory aesthetic contours to the patient's face, enabling a proper prosthetic rehabilitation and proved to be a viable alternative for the treatment of similar cases.

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