

THE USE OF THE CHEEK ADIPOSE BODY FOR TREATMENT OF SINUSAL COMMUNICATION: LITERATURE REVIEW

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Abstract: Bucosinusal communication is a complication that may occur in the transoperative period of upper molar extraction, in which the maxillary sinus ruptures. This complication can cause sinusitis, bone defects and other consequences, requiring treatment so that it is completely covered with the help of the oral mucosa of adjacent tissues. The adipose body of the cheek is popularly known as Bichat's ball, located laterally to the buccinator muscle and on the anterior border of the masseter muscle, and is often used as a graft to close intraoral defects, such as fistulas and oroantral communications. The use of the adipose body of the cheek to close the bucousinusal communication prevents food or salivary contamination in the region, which can lead to a bacterial infection. In view of the above, the objective of this study was to carry out a literature review on the use of the cheek fat pad for the treatment of oroantral communication. The research took place through a literature review of the narrative type, with a qualitative approach. Searches were carried out in the databases: Scielo, BVS, PubMed and selected articles in Portuguese and English with a temporal coverage from 2008 to 2021. It is concluded that the cheek fat pad has a versatile use in oral and maxillofacial surgery in terms of location and application, and can be used alone or in combination with other techniques.

Keywords: “Oral Surgery”, “Oral Fistula” and “Cheek Adipose Body”.

INTRODUCTION

Bucosinusal communication is a complication of maxillary molar extraction, resulting in maxillary sinus rupture, bone defect and gingival opening that needs to be isolated and completely covered within the oral mucosa by adjacent tissues. Rocha et al. (2020), mentioned other less common

causes, such as: trauma due to inappropriate use of surgical instruments, palatine cysts and tumors. Its diagnosis is made through clinical and radiographic examination, being essential for an adequate intervention.

The cheek fat pad is commonly known as Bichat's Ball, located on the lateral face of the mouth muscle, anterior to the masseter muscle, usually used as a graft in intraoral defects such as fistulas and bucousinusal communications. In some cases, failures may occur due to adipose tissue necrosis, presumably caused by manipulation or excessive stress (VERAS FILHO et al., 2010).

The maxillary sinus is an anatomical region located in the maxilla, considered the largest of the paranasal sinuses, communicating with the nasal cavity through the ostium of the maxillary sinus. It has the function of heating the air, reducing the weight of the craniofacial complex and giving resonance to the sound. Its size varies based on several factors, such as age, sex, ethnicity and personal conditions (VERAS FILHO et al., 2010).

The literature cites a series of etiologies and approaches for closing oroantral communications, which vary in size, duration and location, and may be associated with sinus pathologies, whose treatment depends on the correct diagnosis and adequate indication. There is still no consensus on the techniques indicated for the treatment of such a surgical complication (DIAS et al., 2011). According to Camarini et al., (2008) if the first attempt at treatment with the Bichat ball fails, a rotating palatal flap technique is recommended for late closure of an orosinusal fistula.

According to Parise et al. (2016), highlighted the treatment possibilities, with the use of the fat body of the cheek to treat the oroantral communication and avoid contamination of the region by food or saliva, which could lead to bacterial infection.

Thus, despite technical advances, it is common for oral and sinus communication to occur after extraction of upper molars, making it necessary to carry out studies that seek to update the knowledge of students and dentists in the management of these interurrences. Given the above, the objective of this study was to carry out a literature review on the use of the cheek fat pad for the treatment of oroantral communication, showing its advantages and disadvantages.

MATERIAL AND METHODS

RESEARCH TYPE AND METHOD

The research was carried out through a literature review, with a qualitative approach on the use of the cheek fat pad for the treatment of oroantral communication, showing its advantages and disadvantages.

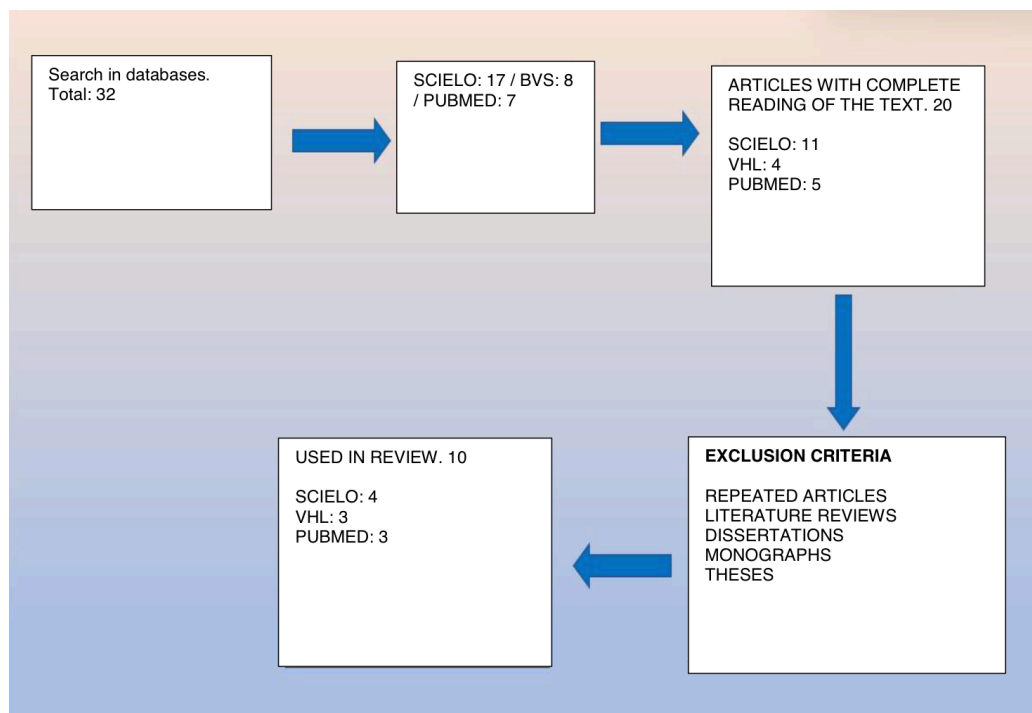
DATA COLLECTION

A search was carried out in the databases: Scielo, BVS and PubMed. The keywords used for the search in the databases are: “Oral

Surgery”, “Oral Fistula” and “Cheek Adipose Body”. The analysis of the qualitative data obtained during the collection was done through critical reading. Through the analysis, the points that deserved greater attention and that must be more valued by the authors were identified.

DATA ORGANIZATION AND ANALYSIS

The search was carried out with the selection of articles initially by reading the title through the descriptors and we obtained a total of 32 articles included in the initial stage. After the first selection according to the keywords, the inclusion criteria were articles in English and Portuguese with a temporal coverage from 2008 to 2021. The exclusion criteria for the search were articles that did not address the specific topic and that did not have access to the full text in their email addresses. The content of the articles was analyzed and the most relevant findings on the subject were included in the literature review.



Source: Own Archive.

RESULTS

AUTHOR	TITLE	GOAL	RESULTS
CAMARINI <i>et al.</i> , 2008	Use of the buccal adipose body for closure of oroantral communication associated with residual cyst enucleation – case report.	To propose, as a treatment option, the use of buccal fat pad to close oroantral communication associated with odontogenic cyst enucleation	The use of the buccal fat pad showed good results in this case and proved to be a technically simple and reliable method.
SCATTARELLA <i>et al.</i> , 2010	Treatment of oroantral fistula with autologous bone graft and application of a non-absorbable membrane.	To report a clinical case with the alternative technique of oroantral fistula, using autologous bone graft	Stability of the bone grafts and good soft tissue regeneration were shown.
VERAS FILHO <i>et al.</i> , 2010	Closure of oroantral communication using pedicled buccal fat pad graft	To report a clinical case of late oroantral fistula closure using pedicled adipose tissue graft rotation from the buccal adipose tissue.	The pedicled graft of tissue from the adipose body of the cheek proved to be a simple, effective and safe alternative.
DIAS <i>et al.</i> , 2011	Bucosinusal communication through the periodontal ligament: case report	To report an oroantral communication difficult to diagnose, through the periodontal ligament of the first molar, after attempts at gingival grafting at the site.	Surgical treatment of oroantral communication was performed using flaps for local closure and sealing of bone openings.
FERREIRA <i>et al.</i> , 2011	Treatment of oroantral fistula using the pedicled buccal fat pad technique: case report	To report a case of oroantral fistula treated using the buccal adipose body pedicle flap technique	The pedicled buccal fat pad technique was effective in closing the oroantral fistula.
YALÇIN <i>et al.</i> , 2011	Surgical treatment of oroantral fistulas: a 23-year clinical study	To report the cases of 23 patients with chronic oroantral fistula who underwent surgical correction	The fistulas were treated with buccal and palatal flaps with buccal advancement to close the region.
AMARAL <i>et al.</i> , 2014	To close oroantral fistulas by using the Bichat ball	To report two clinical cases of oroantral fistula through the fat of Bichat	The use of the Bichat fat pad for closure of oroantral fistulas must be included more frequently in the surgical possibilities because it is a simple procedure.
ROCHA <i>et al.</i> , 2020	Bichat ball for treatment of oroantral fistula: case report	To discuss an oroantral fistula closure with expectant management of the maxillary sinus and surgical management associated with sinusitis	The region sealing technique demonstrated that the use of the Bichat ball is a simple and effective method for oroantral closure.
SINHORINI <i>et al.</i> , 2020	Closure of oroantral communication using the buccal fat pad: Clinical Case Report	To report a clinical case of oroantral fistula using the buccal fat pad closure technique	The technique used is one of the most suitable for the success of the procedure, due to its simplicity and satisfactory results.
SALGADO-PERALVO <i>et al.</i> , 2022	Treatment of oroantral communication with Platelet-Rich Fibrin	To discuss the use of platelet-rich fibrin for closure of oroantral communication	The treatment was an effective therapeutic option, with minimal postoperative morbidity.

Table 1: Distribution of selected articles: author/year, title, objective and results.

DISCUSSION

In the study by Amaral et al (2014) and Ferreira et al (2011) the results about the Bichat pad demonstrate its elongated formation where it is a superficial extremity that separates the buccinator and masseter muscles. The cushion separates its deep extension that extends to the infratemporal fossa, separating the pterygoid muscles and serving to facilitate related muscle movements. The two studies demonstrate the advantages of using the Bichat ball with less disturbance and scarring in the vestibule than a sliding flap, allowing adjustments after one week and is considered a simple and safe procedure.

The applications of the buccal fat pad are reconstructions in the hard palate, soft palate (up to the midline), retromolar triangle, buccal mucosa, tonsillar pillar. Its use as a pedicled graft for closing the oroantral communication showed good and reliable results in this case, especially in the reconstruction of small and medium-sized defects, without the need for a second surgical procedure and with a comfortable postoperative period for the patient, when compared with other techniques. However, the level of experience and skill of the surgeon is very important, because special care is required when manipulating the pedicle (CAMARINI et al., 2008).

With the remission of signs and symptoms, surgery to close the bucosinusal communication was performed, including extraction of the upper right first molar, as the dental element was periodontally condemned with the buccal flap occluding the communication site. The use of the Neumann flap with an incision in the periosteum, aiming at greater mobility and sliding of the vestibular flap for closure in first intention (DIAS et al., 2011).

The use of the Bichat ball brings a series

of advantages in the treatment of oroantral fistula such as: easy applicability in most cases; the minimum incidence of failures; it is a simple procedure; does not require additional removal of teeth or bone; allows adjustments after one week; it brings little discomfort to the patient; low rate of complications and high predictability of results without aesthetic sequelae. However, this technique also has some disadvantages such as the fact that it can only be used once; possibility of postoperative trismus limitation of its use for small and medium defects; serves to cover the defect, but does not provide rigid support (FERREIRA et al., 2011).

To select the appropriate treatment, factors such as the patient's systemic, psychosocial, and income situation must be considered. The literature shows that the use of Bichat balls is a simple, convenient and reliable method of repairing small and medium-sized intraoral defects (ROCHA et al., 2020). According to Sinhorini et al (2020), after the extraction, the oroantral communication was closed by repositioning the buccal flap, which was unsuccessful. Only after 45 days, through irrigation with saline solution and 0.12% chlorhexidine, was it proposed to the patient and the closure of the oroantral communication through the adipose body of the cheek performed. The procedure was performed on an outpatient basis, under local anesthesia, and the oroantral fistula was closed with a pedicled adipose tissue graft derived from buccal adipose tissue. Wound repair and defect closure with complete epithelialization were observed 30 days after surgery. A pedunculated tissue graft from the buccal fat pad proved to be a simple, effective and safe alternative to mediate oroantral fistula closure, in this clinical case (VERAS FILHO et al., 2010).

FINAL CONSIDERATIONS

It is concluded that the buccal fat pad has a versatile use in oral and maxillofacial surgery in terms of location and application, and can be used alone or in combination with other techniques. The success of this technique is attributed to the rich vascularization, lower morbidity at the donor site, constant average size in all individuals, safety and ease of collection, in addition to a lower rate of complications.

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