



Surgical Management of Iatrogenic Ranula and Sialadenitis after Lingual Frenectomy - A Case Report and Literature Review

Fuenmayor G Luis^{1*}, Pulido Katya¹, Remolina E María¹, Mendoza C Jocelyn² and Liceaga R Rodrigo³

¹Autonomous University of Baja California, Mexico

²Dentist in Private Practice

³Department of Oral and Maxillofacial Surgery, Hospital General de Campeche, Campeche, Mexico

Abstract

The ranula has been defined as pseudocysts or accumulation of saliva in surrounding tissues. Frenectomy it's a common oral surgery procedure to correct tongue tie, nevertheless it is necessary to be aware of surrounding anatomic structure to avoid complications. We managed two different lesions caused by an iatrogenic procedure performed for a poorly trained professional. Nevertheless, we were able to improve patient conditions and obtain good results.

Keywords: Ranula; Frenectomy; Iatrogenic; Swelling; Pain

Introduction

The lingual frenum is a membranous fold of mucosal tissue, which connects the ventral surface of the tongue to the floor of the mouth on one side and the basal bone of mandible on the other side. Tongue-tie, is an embryological anatomical malformation of the tongue, characterized by an abnormally short and thick lingual frenum with restricted tongue movement. The most common method to correct ankyloglossia is by the surgical excision of the lingual frenal attachments [1,2]. The purpose of this paper it's to present an uncommon case where two different iatrogenic lesions were done after a lingual frenectomy procedure, establish current concepts in treatment about this topic and perform a literature review.

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*Correspondence:

Fuenmayor G Luis, Department of Surgery, Autonomous University of Baja California, Mexico,
E-mail: fuenmayorl@uabc.edu.mx

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Anatomy and Physiopathology

Tongue is directly connected to the hyoid bone and has connections to the whole body (through the fascial diaphragms all the way down to the feet) through webs of connective tissue known as fascia [3,4]. The sublingual gland lacks a capsule or fascial sheath and is in areolar tissue between the mucosa of the floor of the mouth and the mylohyoid muscle. A lesser sublingual gland is always present and consists of a mass of numerous small glands, which number from 15 to 30, are elongated vertically, and from every 1 of which a short duct of Rivinus passes to the plica sublingualis. A greater sublingual gland, which is situated between the lesser sublingual gland anterolaterally and Wharton's duct medially, is sometimes present and then usually unilaterally. Bartholin's duct passes from the greater sublingual gland either to join Wharton's duct or to run alongside it to open next to it at the caruncle sublingualis. The uncinat process of the submandibular gland is usually present, is above the mylohyoid muscle, and may be separate from or in continuity with the main submandibular gland [5]. The submental artery which is branch of the lingual artery and the sublingual artery (a branch of the facial artery) provide the main arterial supply with corresponding venous drainage [6] it is important to understand too the anatomy of mylohyoid muscle, despite it has been several times investigated; it's much more complex that with we believed [7-12]. During meticulous dissection and resection of the SLG for the treatment of ranulas, a considerable number of SLGs have demonstrated the anatomic variation of Bartholin's duct emptying into Wharton's duct [13]. The ranula have been defined as pseudocysts or accumulation of saliva in surrounding tissues; due to trauma or obstruction of the ducts which induce by mucous extravasation from the Sublingual Gland (SLG) and occurs in the floor of mouth [14-16]. In some patients it can be lack of tongue movement or restraint. Most of the time for Ankyloglossia or Also called tongue Tie. In this situation it is necessary to correct ankyloglossia by the surgical excision of frenal attachments



Figure 1: It seems to be no ductal present in the mouth floor. We see a bluish dome form lesion.

by the process known as frenotomy, frenectomy or frenuloplasty [17]. As well as traditional scalpel surgery, It has been used laser surgery to perform frenectomy since 70's [18-20]. Frenectomy it's a common oral surgery procedure to correct tongue tie, nevertheless it is necessary to be aware of surrounding anatomic structure to avoid complications. It has been reported Injury to the submental sublingual artery and deep lingual veins, Partial blockage of Wharton's duct while suturing, Development of a fibrous scar among others [21]. But still lacking information about this in the literature.

Case Presentation

A 32 Years old Female Student of Dentistry at Universidad Autonoma de Baja California (UABC) came to Oral Surgery Clinic at UABC Valle de las Palmas, complaining about dry mouth and also pain and swelling in her right mandible during meal time. She referred to be received a frenectomy to correct tongue tie. At the clinical examination Figure 1 it seems to be no ductal present in the mouth floor. On the left side of the mouth floor we see a bluish dome form lesion. Thus we assume a ranula as a clinical diagnosis Figure 2 under local anesthesia we dissected and performed a recanalization of Wharton duct, using a 24 Gauge venoclysis cannula in the right-side Figure 3 and a marsupialization of the ranula in the left side Figure 4. The patient evolution was very good. Serostomy improved and also no more swelling and pain during mail time was observed Figure 5.

Discussion

The aim of this article is to present an uncommon case about two different complications due a lingual frenectomy in the same patient. We have seemed there is not enough information regarding Tongue frenectomy and complications about it. Varadan and Cols [22] made a critical review about the main complications related to this procedure. The main complications were excessive bleeding



Figure 2: We assume a ranula as a clinical diagnosis.



Figure 3: Under local anesthesia we dissected and performed a recanalization of Wharton duct, using a 24 Gauge venoclysis cannula in the right-side.



Figure 4: Marsupialization of the ranula in the left side.



Figure 5: Serostomy improved and also no more swelling and pain during mail time was observed.

or hemorrhage, Formation of retention cyst or ranula, Sublingual hematoma formation among others [23-25]. Nevertheless, we have not found complications bilaterally in the same single patient as we show in our case. Surgery it's the gold standard for ranula treatment. Perform marsupialization of ranulas, many authors considered that the average of fail in marsupialization go from 61% to 100% [16,22,26]. In Our case we perform marsupialization of the ranula despite we were aware about a high percentage of fail and because the patient did not wanted a sublingual gland excision. There is no evidence of ranula in one-year control after the surgery. We also were able to treat the salivary obstruction in the right-side decreasing pain, swelling and tenderness in the right side of the mandible angle. This therapy has been used to treat sublingual obstruction or sialoliths removal [27]. Working with ethics and cause knowledge, the proper anatomical knowledge of the floor of the mouth at the time of performing a surgical procedure is very important; this way we can avoid complications that could endanger the patient's health. On the other hand, the understandings of the various complications associated with lingual frenectomy are also of the utmost importance to provide the appropriate postoperative care that allows us to achieve good clinical results and overall patient satisfaction. Working with

ethics and causing knowledge.

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