

How oral dressings saved the day in a palatal mucosa laceration during orthognathic surgery

Jak opatrunki doustne sprawdziły się w przypadku uszkodzenia błony śluzowej podniebienia podczas operacji ortognatycznej

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Summary

Introduction. Complications are a common occurrence during orthognathic surgery and can cause significant morbidity if not managed appropriately. There is little consensus on the optimal approach for managing palatal mucosal lacerations.

Aim of the study. To describe the successful management of a palatal mucosal laceration during orthognathic surgery using oral dressings.

Methods. Two patients who underwent bimaxillary orthognathic surgery sustained a palatal mucosal laceration during the procedure. The laceration was initially intended to be treated with suture or flaps but remained problematic due to risk of infection and bleeding. Oral dressings were then placed in the wound site, resulting in successful control of the bleeding and promotion of tissue healing.

Results. The oral dressings were effective in managing the palatal mucosal laceration,

Streszczenie

Wstęp. Powikłania są częstym zjawiskiem podczas operacji ortognatycznych i mogą powodować znaczną zachorowalność, jeśli nie są odpowiednio leczone. Nie ma zgody co do optymalnego postępowania w przypadku ran szarpanych błony śluzowej podniebienia.

Cel pracy. Pokazanie skutecznego leczenia uszkodzenia błony śluzowej podniebienia podczas operacji ortognatycznej z użyciem opatrunków doustnych.

Metody. Dwóch pacjentów poddanych operacji ortognatycznej dwuszcękowej doznało w trakcie zabiegu uszkodzenia błony śluzowej podniebienia. Początkowo rana miała być zaopatrzona szwami lub techniką płatową, ale stwarzała problemy ze względu na ryzyko infekcji i krwawienia. Na zranieniu umieszczono opatrunki doustne, co skutecznie zatamowało krwawienie i przyspieszyło gojenie tkanek.

Wyniki. Opatrunki doustne skutecznie zaopa-

resulting in successful control of bleeding and healing of the tissue without further complications.

Conclusion. Oral dressings can be a useful adjunct in the management of palatal mucosal lacerations during orthognathic surgery. They provide effective control of bleeding and promote tissue healing, reducing the risk of complications associated with other treatment options, notably infection.

trywały rany błony śluzowej podniebienia, kontrolując krwawienia i sprzyjając gojeniu tkanek bez dalszych powikłań.

Wniosek. Opatrunki doustne mogą być użyteczną pomocą w leczeniu uszkodzeń błony śluzowej podniebienia podczas operacji ortognatycznej. Zapewniają skuteczną kontrolę krwawienia i wspomagają gojenie tkanek, zmniejszając ryzyko powikłań, zwłaszcza infekcji, związanych z innymi możliwościami leczenia.

Introduction

Even with increasing knowledge on the subject, complications in orthognathic surgery are not rare. Amongst a variety of topics, complications remain the most frequently published and interesting subjects when it comes to orthognathic surgery.¹ Bimaxillary orthognathic surgery is particularly prone to a higher incidence of complications.² Intraoperative complications are the most frightening to surgeons. The experience and quick thinking of the entire surgical team are crucial. Any detail can put not only the results of orthognathic surgery but also, in some situations, the patient's life at risk. Therefore, the purpose of this paper is to report on a palatal laceration that occurred during segmented bimaxillary orthognathic surgery and how it was effectively resolved.

Case Report

This is a retrospective case report according to the recommendations of the CARE guideline.³ Two patients were operated on in our private practice, according to the Good Clinical Practice guidelines and the principles of the Declaration of Helsinki.

A female patient underwent orthognathic surgery to correct a dentofacial deformity. The surgery was planned as bimaxillary, along

with genioplasty. Digital planning was carried out, and the maxilla was chosen as the first step. A linear incision was made to access maxillary region, and a segmented Le Fort I osteotomy was carried out. The maxilla was down-fractured, and during the intermaxillary block, which was performed by an experienced surgeon, a massive laceration of the palatal mucosa occurred.

Maxillary orthognathic surgery was performed and stabilized with plates and screws. The surgical team conferred for a few minutes and evaluated that suturing the region would not be effective because the tissue was severely torn. After some deliberation, it was decided to use postoperative oral dressings (Ora Aid®, TBM Corp, South Korea), following the manufacturer's recommendations. No signs of postoperative bleeding were observed in the immediate postoperative period or the following day, and the patient was discharged from the hospital (Fig. 1).

The surgical team added oral dressing on postoperative day three. The patient was instructed to replace the dressing in case of detachment, after around six hours or more (Fig. 2). At one week postoperatively, no bleeding or excessive pain in the region was reported. The patient did not complain at any time about the frequent use and replacement of the adhesives. After the dressings removal (around 20 days) the lacerated soft tissue

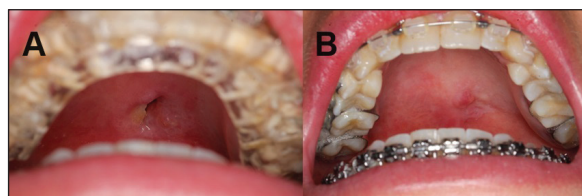


Fig. 1. Case 1. Panel A shows the palatal area three days postoperatively, while Panel B shows the same area after complete healing.

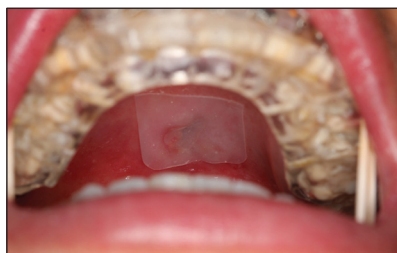


Fig. 2. Oral dressing in position.

was found to be in good clinical condition. The authors believe that the use of dressings was more effective than suturing the region in the present case. Suturing could cause wound dehiscence, further infection, or even a fistula.

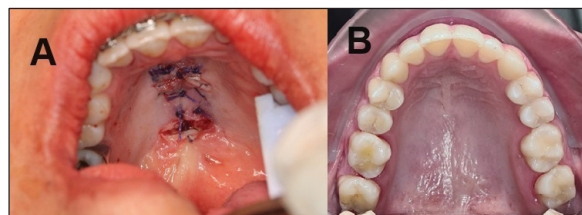


Fig. 3. This figure relates to Case 2, illustrating the surgical management of a palatal fistula. Panel A depicts the intraoperative stage, where a local flap was used to address the fistula. Panel B shows the area after total healing, demonstrating the effectiveness of the intervention.

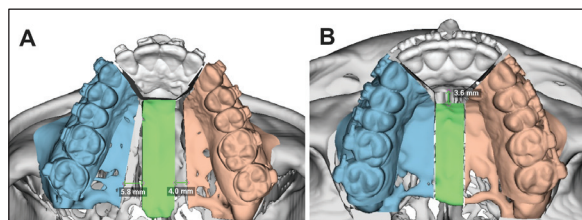


Fig. 4. Amplitude of palatal segmentation in case 1, reaching 9.8 mm (A). Case 2 with inferior amplitude but with higher anterior segment rotation (B).

In case 2, the same sequence of operations was performed on another female patient. In this case, the authors opted to perform a local soft tissue flap. During the postoperative period, the authors noted that the flap was not able to fix the oral laceration. Approximately one week postoperatively, the surgical team decided to use oral dressings as a local wound protector (Fig. 3). The use of oral dressings was performed in the same manner as described above. After several days of using oral dressings, the wound completely healed.

The authors attribute a larger angular or linear segmentation as the main cause of palatal laceration (Fig. 4). In the first case, segmentation reached almost 10 mm. In the second case, despite being not too large, a wide-angled segmentation was performed due to a high premaxilla deviation. Although both patients were female, the authors believe that gender aside from age or comorbidities were not related to the occurrences.

Discussion

The concern with trans- and postoperative care has significantly improved the quality of postoperative orthognathic surgery. A wide range of devices and techniques have been developed or adapted from other areas to maxillofacial surgery, including halotherapy,⁴ kinesiotherapy⁵ and specific drug protocols.⁶ These and other techniques have brought a more comfortable and safer postoperative period for both the patient and the surgeons.

Although unusual,¹ a very troublesome transoperative complication in maxillary orthognathic surgeries is the laceration of the palatal mucosa. Due to the movement caused by mobilization of the maxilla, these tears tend to be quite extensive. The difficulty in suturing these tears is enormous because the tissue is friable. The chance of a fistula, infection or bleeding is high. Although not a

rare complication, few treatment options are reported in the literature. One option is the use of buccal fat pad.⁷

A not-so-common but viable option is using oral dressings applied directly to the wound. Due to the constant humidity in the oral cavity, it is challenging to develop materials that can adhere to oral mucosa. A variety of materials have been tested with variable levels of efficacy. Tissue glues containing cyanoacrylate,⁸ hydrogels based on gelatin, polydopamine and nano-clay⁹ can be found in the literature. No further complications with the use of these dressings were reported. The only issue to be mentioned is the increase in surgical costs.

Maxillofacial surgeons must be on the alert for the diverse unforeseen events and complications that may manifest during orthognathic surgical procedures. Their surgical armamentarium, both within the confines of the operating theater and within the outpatient setting for postoperative care, ought to encompass a selection of adjunctive tools. Certain pharmaceutical agents, apparatus, and instruments that are not routinely employed hold considerable significance.

Scientific insights garnered from case reports or technical notes can wield a substantial influence on achieving a favourable ultimate outcome. Although some may undervalue it, this category of publication is indispensable for the maxillofacial surgeon, as it introduces novel insights while reinforcing and updating established principles. Any technique devised to enhance patient's well-being, comfort or quality of life should be disseminated as comprehensively as possible.

Conclusions

Oral dressings are a helpful alternative in the case of palatal mucosa laceration during orthognathic surgery. Maxillofacial surgeons

must be aware of this intercurrency in cases of larger segmented maxillary osteotomies.

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