

CASE REPORT

Partially resorbed unremoved silk sutures after tooth extraction: A unique Case report

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Abstract

Suturation may remain in the mouth for a long time due to incomplete information to patients due to inadvertency. Forgotten silk sutures might be sunk and cause irritation into the alveolar mucosa.

KEYWORDS

alveolar mucosa, case report, nonabsorbable, postoperative, remove, Silk suture

1 | INTRODUCTION

Postoperative information that must be given to patients after operations may be incomplete occasionally. In this case, 6 months before coming to our clinic, patient had dentoalveolar surgery in considerations of the teeth removal. After extraction, wound closure had been provided by 3/0 silk suture. In the 6 months postoperative period, suture had not been removed and sunk deeply into the alveolar mucosa. The patient came to our clinic because of an asymptomatic color change on the top of the alveolar crest of the mandible. The decayed suture with conjoint alveolar mucosa was excised under local anesthesia. The postoperative period of 6 months was uneventful. Surgeons should be more conscious and thoughtful about giving postoperative information to their patients. Otherwise, forgotten silk sutures may cause irritation to patients, and if not removed within a timely manner, the sutures might be sunk into the alveolar mucosa.

In maxillofacial surgery, sutures can be used to re-approximate tissues separated by accidental or surgical trauma, to promote primary healing and to control

hemorrhage; they are also used after dentoalveolar surgery and after the removal of impacted third molar teeth or tooth extractions with complications.¹ Suture material (resorbable or nonresorbable) is an operator-dependent variable, and while little objective data exist to guide the choice of suture, this choice is an important one as it may play a role in wound infection. If the sutures are lost too early, wound dehiscence may occur, delaying and interrupting the healing process.¹ On the other hand, if sutures are retained too long, they may cause inflammation and may possibly lead to granuloma formation or even a “stitch abscess”.¹ Consequently, the use of sutures with optimum life span in the mouth would contribute significantly to the practice of oral surgery.

In addition to the wrong suture selection, postoperative complications may also occur due to incorrect or incomplete information given to patients. In literature, articles related to sutures are mostly focused on suture material properties, suture techniques, or infection susceptibility depending on suture structural properties. To the best of our knowledge, this would represent the first case report related to forgotten sutures postoperation.

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2 | CASE PRESENTATION

An asymptomatic 33-year-old man was referred to our clinic after noticing a color change on the posterior edentulous alveolus of mandible (Figure 1). There was no history of trauma to the mandible. The patient had a history of smoking, had no further illnesses, and otherwise healthy. On examination, the alveolus was of normal consistency without any expansion, swelling, or infection; no pain or tenderness was observed; and there was no lymphadenopathy. A color change was observed on the soft tissues around posterior alveolus of the mandible. 6 months before coming to our clinic, patient had a dentoalveolar surgery in considerations of the tooth removal with complication in a dental clinic. As learned from the patient, posterior second molar tooth of the right mandible had been removed. After extraction, wound closure had been provided by 3/0 silk suture. In the 6 months postoperative period, suture was not removed and was sunk deeply into the alveolar mucosa. The patient came to our clinic because of an asymptomatic color change on the top of the alveolar crest of the mandible. The decayed suture with conjoint alveolar mucosa was excised totally under local anesthesia (articaine with 1/100000 epinephrine) (Figure 2). The wound had healed satisfactorily. Follow-up period of 6 months was uneventful postoperatively (Figure 3).

3 | DISCUSSION

Sutures used in oral and maxillofacial surgery might be different from those used in other locations because of the multilayered squamous epithelium structure, continuous saliva,



FIGURE 1 Clinical photograph showing the decayed suture with conjoint alveolar mucosa of posterior mandible



FIGURE 2 Clinical photograph showing alveolar mucosa after excision under local anesthesia (articaine with 1/100 000 epinephrine)



FIGURE 3 Clinical photograph showing the healing of the excision area after 6 months

high vascularization, and functions such as speech and chewing.² Silk suture is regarded as the standard suture material among natural suture materials. Consisting of 70% protein fiber and 30% impurities such as gum, these sutures can be coated with wax or silicone. Although it is classified as a nonresorbable material, silk suture may be partially resorbed as a result of proteolysis and can become completely undetectable in the wound within 2 years.³ Tensile strength of silk sutures might decrease due to natural pitting and moisture in the mouth. The main disadvantage of silk sutures is that this material (protein and impurities) can trigger acute inflammatory reactions, host reactions, and encapsulation with connective tissue. Even if resorbable sutures are used, they should be removed within a timely manner since inflammatory

responses might be caused in the case of delayed resorption of the sutures.⁴

In the study done by Banche et al,² silk sutures showed the smallest affinity to the adhesion of bacteria. Elek and Cohen⁵ showed that 7.5 million viable staphylococci were required to induce an intradermal infection, while only 300 bacteria were sufficient to produce a similar response in the presence of silk suture. According to the literature, silk sutures are more prone to the adhesion of bacteria than other suture materials due to their multifilament structure.⁶⁻⁹ Various aspects of the sutures used in oral surgery have been explored, but only a few studies researched their longevity. Shaw et al¹ state that the optimal duration for spontaneous suture loss after surgery is 5-14 days. If the activating stimulus persists, chronic inflammation, and delayed or defective wound healing might occur.¹⁰ Also, Uff et al⁴ showed that soluble factors associated with suture materials cause cell activation and impaired macrophage function in vitro.

In this report, it has been observed that the unremoved sutures were partially resorbed and the unresorbed part was invaded within the alveolar crest. Even if resorbable sutures are used, it might be necessary to remove it after wound healing since the duration of the resorption process is not standardized. A study examining the postoperation long-term effects of unremoved sutures in the mouth could not be found in the literature. Therefore, it is recommended to investigate the harmful effects of this condition, to inform patients correctly about this condition, and to follow up for unremoved sutures postoperation.

4 | CONCLUSION

Patients are sometimes uninformed about postoperative recommendations, or they think that resorbable suture material is used. Surgeons should be more conscious and thoughtful about giving postoperative information to their patients. Otherwise, forgotten silk sutures may cause irritation or inflammation, and if not removed within a timely manner, the sutures might be sunk into the alveolar mucosa.

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The abstract is available here: <http://eprints.ugd.edu.mk/2403/1/Abstrakti%20elektronik%2027.4%2017%20Bas%20Tirana.pdf>. Published with written consent of the patient.

CONFLICT OF INTEREST

The author declares that he has no conflict of interest.

AUTHOR CONTRIBUTIONS

Sinan Yasin Ertem: performed the study.

ETHICAL APPROVAL/CONFIRMATION OF PATIENTS' PERMISSION

Signed informed consent was obtained from the patient included in the study.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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