

Received: 2014.02.17  
Accepted: 2015.04.01  
Published: 2015.05.08

## Early Skin Reaction of Polydioxanone Suture Material Following Septorhinoplasty

Authors' Contribution:  
Study Design A  
Data Collection B  
Statistical Analysis C  
Data Interpretation D  
Manuscript Preparation E  
Literature Search F  
Funds Collection G

ABCDEF 1 **Ozan Kuduban**  
DEF 2 **Selma Denктаş Kuduban**

1 Department of Ear Nose Throat Surgery, Erzurum Regional Education and Research Hospital, Erzurum, Turkey  
2 Department of Plastic Reconstructive and Aesthetic Surgery, Erzurum Palandoken Government Hospital, Erzurum, Turkey

**Corresponding Author:** Ozan Kuduban, e-mail: [ozankuduban@gmail.com](mailto:ozankuduban@gmail.com)  
**Conflict of interest:** None declared

**Patient:** Male, 27  
**Final Diagnosis:** Postoperatif healing  
**Symptoms:** Feeling of foreign body on the nasal tip  
**Medication:** —  
**Clinical Procedure:** Minor intervention and follow-ups  
**Specialty:** Otolaryngology

**Objective:** Unusual clinical course





**Background:** Septorhinoplasty is a frequent surgical procedure used for both cosmetic and functional purposes. The technique varies from surgeon to surgeon and according to which suture material is used. While some surgeons prefer non-absorbable sutures, others prefer sutures with delayed absorption. These materials sometimes protrude from the skin and they may cause skin reactions. While these reactions are common in the late period, a skin reaction in the early period because of polydioxanone suture is extremely rare and to the best of our knowledge, this is the first such reported case in the literature.

**Case Report:** A 25-year-old male patient underwent endonasal septorhinoplasty procedure with endo-tracheal general anesthesia. We hereby present the skin reaction because of frequently used polydioxanone suture on the 24<sup>th</sup> postoperative day and the management of this patient. We cut the suture at skin level and prescribed antibiotic therapy, and we scheduled a follow-up for 10 days afterwards. The patient had no complaint and the control examination result was normal.

**Conclusions:** When performing septorhinoplasty operations, very rare complications of the procedure shouldn't be ignored and an informed consent must be obtained after explaining possible complications before the operation. This approach is important for increasing the patient compliance and proper follow-up for the patient. This way, especially post-operative early complications as our case will be able to be solved with close follow-up and intervention, before causing permanent damage. The relationship between patient who underwent rhinoplasty and the physician also has an important role on these follow-up visits.

**MeSH Keywords:** Polydioxanone • Postoperative Complications • Rhinoplasty

**Full-text PDF:** <http://www.amjcaserep.com/abstract/index/idArt/893895>

 825   4  2



## Background

Septorhinoplasty is a surgical operation performed by both otolaryngologists and plastic surgeons. There are several complications associated with septorhinoplasty. In order to prevent complications, surgeon must choose the most suitable approach for the patient [1,2]. Early complications occur on the first 30 day period postoperatively. Close supervision of the patient postoperatively will increase the chances of intervention in the right time. But if late complications occur, a revision operation is inevitable. We hereby present the skin reaction because of polydioxanone suture material, which is frequently used in surgical practice, on the 24<sup>th</sup> postoperative day and the management of this patient.

## Case Report

A 25-year-old male patient has been admitted to our outpatient clinic. Otolaryngologic examination revealed deviation to right at both nasal axes and nasal septum. The deviation was also obstructing the nasal valve (Figure 1). Examination results of other systems were unremarkable. The patient underwent endonasal septorhinoplasty procedure with endo-tracheal general anesthesia. For the surgical intervention of nasal tip, 3/0 polydioxanone suture material was used for interdomal



**Figure 1.** Preoperative anteroposterior view of the patient.

saturation that has cut at 5 millimeters length after being tied. The patient has been discharged on the 2<sup>nd</sup> postoperative day with antibiotics and analgesia prescriptions. On the control exam at the 8<sup>th</sup> postoperative day the cast and plaster splint were removed and another control exam scheduled for a week later. At this next control exam the patient had no complaints and he was pleased with the procedure outcome. His otolaryngologic examination result was normal except for mild edema at the dorsum of the nose. On the 24<sup>th</sup> postoperative day the patient referred to our clinic reporting “feeling something at the tip of the nose”. Our examination revealed polydioxanone suture material was sticking out from the tip of the nose and a hyperemic area of 7×7 mm was surrounding the suture material (Figure 2). We cut the suture on the level of skin and prescribed oral antibiotherapy, and we scheduled a follow-up for 10 days afterwards. The patient had no complaint and the control examination result was normal. Control exams have been done monthly and revealed normal findings and the patient was pleased with the results at 1 year after surgery.

## Discussion

In septorhinoplasty, obtaining good outcomes is harder than the procedure itself [3]. Thus, different techniques developed for this purpose aimed preventing early and late complications



**Figure 2.** Skin reaction and polydioxanone suture on the 24<sup>th</sup> postoperative day (arrow).

[2]. While it is necessary to reconstruct the nose such that it fits the face of the patient, functionality of the nose is the primary goal of the procedure. Open and closed septorhinoplasty methods are the most frequently used methods for this purpose. Rarely, closed septorhinoplasty, also known as endonasal approach, can progress into open septorhinoplasty. Most important advantage of open septorhinoplasty is that the surgeon can have a complete and unobstructed vision of the area of practice but the transcolumellar incision of this operation may heal with a scar. On the other hand, the endonasal rhinoplasty doesn't include skin incisions thus it doesn't heal with a scar but since it is an endonasal approach, limited vision is a disadvantage of it.

Surgical reconstruction of the nasal tip is necessary in both open and closed technique of rhinoplasty operations. Sutures are especially used to create symmetrical and natural appearance of the nasal tip. Polydioxanone suture material, which is absorbed in 6 months, is commonly used for nasal tip surgery [4]. Skin complications with this suture material are very rare and the complication rate is extremely low compared to other non-absorbable suture materials. When this happens, patients present to the surgeon with a complaint of "sticking out of a weird substance from the tip of their nose" and they usually panic. This frequently occurs in the late period of the surgery. But as in our case, early skin reaction of polydioxanone suture material is quite surprising. After the evaluation, the patient must be assured that it is a situation that can be taken care of.

## References:

1. Gassner HG, Mueller-Vogt U, Strutz J, Kuehnel T: Nasal tip recontouring in primary rhinoplasty: the endonasal complete release approach. *JAMA Facial Plast Surg*, 2013; 15: 11–16
2. Coskun BU, Sozen E, Seneldir S et al: Does the open rhinoplasty incision decrease nasal projection? *Eur Arch Otorhinolaryngol*, 2012; 269: 867–70
3. Adamson PA, Constantinides M, Kim AJ, Pearlman S: Rhinoplasty: panel discussion. *Facial Plast Surg Clin North Am*, 2014; 22: 25–55
4. Parara SM, Manios A, de Bree E et al: Significant differences in skin irritation by common suture materials assessed by a comparative computerized objective method. *Plast Reconstr Surg*, 2011; 127: 1191–98

The treatment for skin reactions associated with suture material of nasal tip surgery is medical treatment and cutting the projecting part out of the material. Appropriate antibiotics must be combined with anti-inflammatory drugs as medical treatment. If there is no response to this treatment method, the sutures used for nasal tip surgery must be completely removed and reconstruction procedure must be repeated with another suture material.

## Conclusions

As in all surgical interventions, when performing septorhinoplasty operations, very rare complications of the procedure should not be ignored, and an informed consent must be obtained after explaining possible complications before the operation. This approach is important for increasing patient compliance and proper follow-up for the patient. Thus, post-operative early complications as in our case will be solved with close follow-up and intervention, before causing permanent damage. The relationship between patient and physician also has an important role in these follow-up visits.

## Conflict of interest statement

We disclose that there are no financial or personal relationships with other people or organizations that could inappropriately influence (bias) this work.