

Septoplasty with Nasal Packing or Transseptal Suturing: Comparative Study

Usama Zidan Khalaf, Raad Darweesh Fadhil Ghadeer, Mohammed Abdulwahab Bahjat

Kirkuk General Hospital, Directorate of Kirkuk Health, Ministry of Health, Kirkuk, Iraq.

*Correspondence to: Usama Zidan Khalaf (E-mail: usama_alqaisy@yahoo.com)

(Submitted: 09 July 2022 – Revised version received: 22 July 2022 – Accepted: 11 August 2022 – Published online: 26 December 2022)

Abstract

Objective: The aim of study is to find out the better option to manage post-operative septal hematoma between the nasal packing or quilting sutures.

Methods: Cross sectional comparative study of 2 groups patients, group [A]; 39 patients have septoplasty with no nasal packing and suturing, while group [B]; 40 patients have septoplasty with nasal packing. The study has been carried out from July 2021 until February 2022 in Kirkuk General Hospital. From all patients take age, gender, pain, and bleeding occurrence after few moments after surgery, then after 1st day and then after seventh day after operation. Also, if patients have synechia or not.

Results: There is significant difference between group A and group B in bleeding at time of operation, group A patient more bleeding. There is significant difference between group A and group B in bleeding at 1st day after operation, group A patient less bleeding. There is significant difference between group A and group B in pain at 1st day after operation, group A patient less bleeding. There is significant difference between group A and group B in pain at 7th day after operation, group A patient less bleeding.

Conclusion: Nasal pain, headache, were reduced in the trans – septal suturing group as compared to packing. However, nasal bleeding was present in both the groups. It also proves to be a cost-effective modality and gives a better post-operative quality of life to patients. Hence, we recommend trans-septal suturing as the preferred method over anterior nasal packing in patients after septoplasty.

Keywords: Septoplasty, nasal packing, transseptal suturing, comparative study

Introduction

Septoplasty is important and usually done by the ENT Surgeons, after nasal septal operation done use nasal packing to inhibit septal bleeding that occur after operation.¹ Done mainly on patients with deviated nasal septum led to nasal obstruction, mouth breathing, snoring and recurring incidents of sinusitis and otitis media. It is also designated in patients having recurring epistaxis due to a septal spur.² Nasal packing after operation is to attain better flap opposition with a cozily appropriate pack that would use a continued, incessant & equivalent pressure from either side of the nasal septum.¹ Many comparative studies between the different packing material have been showed from period to period. Despite entirely the benefits of post-operation nasal packing, the difficulties of a pack in situ particularly with a patient angle is rarely measured.³ The pain & discomfort that the patient has face it in the 48 hours' post-surgery should be a fact that should be chiefly taken into thought particularly as there is no fixed factors concerning the size, length, and quantity of nasal pack to be presented into the nasal cavities.⁴⁻⁶ Transseptal intranasal quilting suture using vicryl is respectable another possible choice for nasal packing. It decreases the probabilities of septal hematoma development also offers better flap estimate. The post-operative pain related with quilting sutures much smaller as likened to nasal packing.⁷ Additional complications include the worsening of sleep-disordered breathing and risk of postoperative infections, predominantly toxic shock syndrome resulting from post-septoplasty packing.⁸ The aim of study is to find out the better option to manage post-operative septal hematoma between the nasal packing or quilting sutures.

Methods

Cross sectional comparative study of 2 groups patients, group [A]; 39 patients have septoplasty with no nasal Packing and suturing, while group [B]; 40 patients have septoplasty with nasal packing. The study has been carried out from July 2021 until February 2022 in Kirkuk General Hospital. From all patients take age, gender, pain, and bleeding occurrence after few moments after surgery, then after 1st day and then after seventh day after operation. Also, if patients have synechia or not. And then comparing between 2 groups. Statistical analysis done by SPSS 22, frequency and percentage used for categorical data, mean, median and SD for continuous data. Student *t* test used for assessed difference between the mean of variables. *P*-value less or equal to 0.05 is consider significant.

Results

Cross sectional comparative study of 2 groups patients, group [A]; 39 patients have septoplasty with no nasal Packing mean age (28.1 ± 8.3) years, while group [B]; 40 patients have septoplasty with nasal packing mean age of them are (27 ± 6.7) years.

Group A: [69.2%] of patients are females and [30.8%] are males, [17.9%] of patients have bleeding at time of operation, no bleeding at 1st day, 7th day after operation. [15.4%] of patients have pain at operation while no pain at 1st, 7th day after operation. 1 patient only have synechia.

Group B: [37.5%] of patients are females and [62.5%] are males, no patients have bleeding at time of operation, [22.5%] of patients have bleeding at 1st day, no bleeding occur at 7th day after operation. [10%] of patients have pain at operation

while [72.5%] of patients have pain at 1st day and [85%] of patients have pain at 7th day after operation. No patient has synechiae. As shown in Table 1.

According to Table 2; in group [A]; there is significant difference in bleeding between 1st day operation and at operation, less bleeding at 1st day. Also, there is significant difference in bleeding between 7th day operation and at operation time, less bleeding at 7th day.

There is significant difference in pain between 1st day operation and at operation, less pain at 1st day. Also, there is significant difference in pain between 7th day operation and at operation time, less pain at 7th day.

According to Table 3; in group [B]; there is significant difference in bleeding between 1st day operation and at operation, more bleeding at 1st day. There is significant difference in

pain between 1st day operation and at operation, more pain at 1st day. Also, there is significant difference in pain between 7th day operation and at operation time, more pain at 7th day.

According to Table 4; there is significant difference between group A and group B in bleeding at time of operation, group A patient more bleeding. There is significant difference between group A and group B in bleeding at 1st day after operation, group A patient less bleeding. There is significant difference between group A and group B in pain at 1st day after operation, group A patient less bleeding. There is significant difference between group A and group B in pain at 7th day after operation, group A patients less bleeding.

Discussion

Nasal packing is usually experienced after septoplasty to enable closing of dead space.⁹ The usually used nasal packing resources are "paraffin gauze, gauze impregnated with antibiotics, Vaseline gauze, bismuth iodoform paraffin paste, fibrin glue, gelfoam, merocel, silastic sheets".¹⁰ As procured by Huang et al, the problems of packing include mucosal injury leading to septal perforation, displacement of packing material or its aspiration, allergic reaction, toxic shock syndrome, and occasionally Eustachian tube dysfunction.¹¹ To overwhelm these complications, Cukurova et al conducted a retrospective analysis of 697 septoplasty cases and decided that trans septal

Table 1. Frequency of variables according to both patient's groups

| Variables | Group A | | Group B | |
|--------------------|-----------|-------|-----------|------|
| | Frequency | % | Frequency | % |
| Gender | | | | |
| Female | 27 | 69.2 | 15 | 37.5 |
| Male | 12 | 30.8 | 25 | 62.5 |
| Operation bleeding | | | | |
| No | 32 | 82.1 | 40 | 100 |
| Yes | 7 | 17.9 | 0 | 0 |
| 1st day bleeding | | | | |
| No | 39 | 100.0 | 31 | 77.5 |
| Yes | 0 | 0 | 9 | 22.5 |
| 7-day bleeding | | | | |
| No | 39 | 100.0 | 40 | 100 |
| Operation pain | | | | |
| No | 33 | 84.6 | 36 | 90.0 |
| Yes | 6 | 15.4 | 4 | 10.0 |
| 1st day pain | | | | |
| No | 39 | 100.0 | 11 | 27.5 |
| Yes | 0 | 0 | 29 | 72.5 |
| 7-day pain | | | | |
| No | 39 | 100.0 | 6 | 15.0 |
| Yes | 0 | 0 | 34 | 85.0 |
| synechiae | | | | |
| No | 38 | 97.4 | 40 | 100 |
| Yes | 1 | 2.6 | 0 | 0 |

Table 2. Difference in mean of bleeding and pain in group A patients

| Group A | Mean | Std. deviation | P-value |
|------------------|------|----------------|---------|
| Bleeding op day | 0.18 | 0.38 | 0.006 |
| Bleeding 1st day | 0.00 | 0.00 | |
| Bleeding op day | 0.18 | 0.38 | 0.006 |
| Bleeding 7 day | 0.00 | 0.00 | |
| Pain op day | 0.15 | 0.36 | 0.012 |
| Pain 1st day | 0.00 | 0.00 | |
| Pain op day | 0.15 | 0.36 | 0.012 |
| Pain 7 day | 0.00 | 0.00 | |

P-value ≤ 0.05 (significant).

Table 3. Difference in mean of bleeding and pain in group B patients

| Group B | Mean | Std. deviation | P-value |
|------------------|------|----------------|---------|
| Bleeding op day | 0.00 | 0.00 | 0.002 |
| Bleeding 1st day | 0.23 | 0.42 | |
| Pain op day | 0.10 | 0.30 | 0.0001 |
| Pain 1 day | 0.73 | 0.45 | |
| Pain op day | 0.10 | 0.30 | 0.0001 |
| Pain 7 day | 0.85 | 0.36 | |

P-value ≤ 0.05 (significant).

Table 4. Difference in mean of bleeding and pain between group A and B patients

| | Group | N | Mean | Std. deviation | P-value |
|------------------|---------|----|------|----------------|---------|
| Bleeding op day | Group A | 39 | 0.18 | 0.389 | 0.005 |
| | Group B | 40 | 0.00 | 0.000 | |
| Bleeding 1st day | Group A | 39 | 0.00 | 0.000 | 0.001 |
| | Group B | 40 | 0.23 | 0.423 | |
| Pain op day | Group A | 39 | 0.15 | 0.366 | 0.48 |
| | Group B | 40 | 0.10 | 0.304 | |
| Pain 1st day | Group A | 39 | 0.00 | 0.000 | 0.0001 |
| | Group B | 40 | 0.73 | 0.452 | |
| Pain 7 day | Group A | 39 | 0.00 | 0.000 | 0.0001 |
| | Group B | 40 | 0.85 | 0.362 | |
| Synechiae | Group A | 39 | 0.03 | 0.160 | 0.31 |
| | Group B | 40 | 0.00 | 0.000 | |

P-value ≤ 0.05 (significant).

suturing techniques used in septoplasty cause insignificant pain and post-operation problems, allowing patients to resume their routine day-to-day functions within a relatively short duration.¹² Their study avowed that nasal packing is a risk related process having no defensible cause for its sustained use in usual practice, while improved patient comfort after septoplasty when the suturing technique is done.¹² In current study trans-septal suturing significantly decrease the occurrence of post-surgical nasal pain, headache, difficulty in breathing, post-nasal drip, sleep trouble. Intranasal packing led to increased incidence of synechiae and adhesions when compared with trans-septal through-and-through splint suturing in the Indian demographic.¹³ In current study trans-septal suturing was chosen as the parameter of comparison with packing, instead of more expensive alternatives available in the market, such as splints. Hence, we recommend the practice of placing sutures to positively improve the quality of life of the patients while also relieving the financial burden on the patients presenting to a government setup. Also, in current study there is significant difference between group A and group B in bleeding at 1st day after operation, group A patient

less bleeding but equal bleeding in both groups at 7th day after operation this is similar to study done by Certal et al, packing and non-packing methods seemed to give equal incidence of postoperative risk of bleeding.¹⁴ Correction of grossly deviated septum and prominent spurs resulted in more incidence bleeding post-procedurally, irrespective of the group that the patient belonged to.¹⁴

Conclusion

Nasal pain, headache, were reduced in the trans – septal suturing group as compared to packing. However, nasal bleeding was present in both the groups. It also proves to be a cost-effective modality and gives a better post-operative quality of life to patients. Hence, we recommend trans-septal suturing as the preferred method over anterior nasal packing in patients after septoplasty.

Conflict of Interest

None. ■

References

1. Babu AR, Shankar De K, Prakash BG, Sreenivas Kamath K. Quest for the Ideal Nasal Pack in Post Operative Cases of Septo-Turbinoplasty: Study in a Tertiary Care Hospital. *Indian J Otolaryngol Head Neck Surg.* 2020 Dec;72(4):463–467.
2. Garzaro M, Dell'Era V, Rosa MS, Cerasuolo M, Garzaro G, Aluffi Valletti P. Effects of glove finger- versus lidocaine-soaked nasal packing after endoscopic nasal surgery: a prospective randomized controlled trial. *Eur Arch Otorhinolaryngol.* 2020 Feb;277(2):439–443.
3. Yadav K, Ojha T, Gakhar S, Sharma A, Singhal A, Kataria V. Effectiveness of Nasal Packing in Trans-septal Suturing Technique in Septoplasty: A Randomized Comparative Study. *Indian J Otolaryngol Head Neck Surg.* 2019 Nov;71(Suppl 3):1765–1769.
4. Hari C, Marnane C, Wormald PJ. Quilting sutures for nasal septum. *J Laryngol Otol.* 2008;122:522–523.
5. Awan MS, Iqbal M. nasal packing after septoplasty: a randomized comparison of packing versus no packing in 88 patients. *Ear Nose & Throat Journal* 2008; 87(11):624–7.
6. Veluswamy A, Handa S, Shivaswamy S. Nasal septal clips: an alternative to nasal packing after septal surgery? *Indian J Otolaryngol Head Neck Surg.* 2012 Dec;64(4):346–50.
7. Mane RS, Patil B, Mohite A. Comparison of septoplasty with and without nasal packing and review of literature. *Indian J Otolaryngol Head Neck Surg.* 2013 Aug;65(Suppl 2):406–8. doi: 10.1007/s12070-013-0626-x.
8. Pevernagie DA, De Meyer MM, Claeys S. Sleep, breathing and the nose. *Sleep Med Rev.* 2005 Dec;9(6):437–51.
9. Lemmens W, Lemkens P. Septal suturing following nasal septoplasty. A valid alternative for nasal packing? *Acta Otorhinolaryngol Belg.* 2001; 55:215–21.
10. Daneshrad P, Chin Gregory Y, Rice Dale H. Fibrin glue presents complications of septal surgery: findings in a series of 100 patients. *Ear Nose & Throat J.* 2003; 82:196–8.
11. Huang IT, Podkomorska D, Murphy MN, Hoffer I. Toxic shock syndrome following septoplasty and partial turbinectomy. *J Otolaryngol.* 1976; 15:310–2.
12. Cukurova I, Cetinkaya EA, Mercan GC, Demirhan E, Gumussoy M. Retrospective analysis of 697 septoplasty surgery cases: packing versus trans-septal suturing method. *Acta Otorhinolaryngol Ital.* 2012; 32(2):111–4.
13. Naik K. A Novel way of Trans-Septal Splint Suturing Without Nasal Packing for Septoplasty. *Indian J Otolaryngol Head Neck Surg.* 2015; 67(1):48-50 doi: 10.1007/s12070-014-0763-x. Epub 2014 Aug 10.
14. Certal V, Silva H, Santos T, Correia A, Carvalho C. Trans-septal suturing technique in septoplasty: a systematic review and meta-analysis. *Rhinology* 2012; 50(3):236–45.

This work is licensed under a Creative Commons Attribution-NonCommercial 3.0 Unported License which allows users to read, copy, distribute and make derivative works for non-commercial purposes from the material, as long as the author of the original work is cited properly.