World Journal of Otorhinolaryngology-Head and Neck Surgery (2017) 3, 44—48

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journal homepage: www.keaipublishing.com/WJOHNS; www.wjent.org

Research Paper

Nasal septum suture combined with inferior turbinate coblation after septoplasty: Does it improve quality of life and reduce complications?

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Received 31 January 2017; accepted 6 February 2017
Available online 17 March 2017

KEYWORDS
Septoplasty;
Nasal septal suture;
Inferior turbinate coblation;
Nasal packing

Abstract *Objective:* Nasal packing is routinely applied after septoplasty. Patients, however, report feeling very uncomfortable while the packing is in place. The aim of this study was to compare the effects of nasal septum suture combined with inferior turbinate coblation to the effects of nasal packing after septoplasty.
Methods: In this study, 135 patients undergoing septoplasty were divided into 3 groups: group 1 patients had microdebrider with packing, group 2 received coblation with packing and group 3 had coblation with suture. Early postoperative quality of life and complications were compared between the 3 groups.
Results: The patients in group 1 experienced the most postoperative nasal pain, headache, dysphagia, sleep disturbance and bleeding on the night of surgery; while the patients in group 3 experienced the fewest symptoms. No difference in epiphora was observed between the 3 groups. More pain and bleeding were experienced when comparing the pack removal (Group 1 and 2) with the clearance of the nasal cavity (Group 3). We noted one case of postoperative bleeding in group 1, one septal hematoma in group 1 and a second septal hematoma in group 2. No such postoperative complications were found in group 3.

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Peer review under responsibility of Chinese Medical Association.

Production and Hosting by Elsevier on behalf of KeAi

http://dx.doi.org/10.1016/j.wjorl.2017.02.002

Conclusion: Nasal septum suture combined with inferior turbinate coblation was not only associated with less pain, increased patient satisfaction and an improved quality of life; but also reduced postoperative complications. Our results confirm that it is a more comfortable, reliable alternative to the more common nasal packing.

Introduction

Septoplasty is currently the only way to treat nasal septum deviation. It not only alleviates the symptoms of patients, but also provides a wide space for access to the middle meatus during endoscopic sinus surgery.[1] Nasal packing after septoplasty is routinely performed by most surgeons to reduce complications. However patient discomfort is always the most common complaint. Patients have, in fact, reported suffering pain constantly until the removal of the packing material.[2–4] This pain is especially severe at the time of nasal tampon removal,[5] and has always been regarded by patients as one of their most painful experiences.

Some surgeons have reported that septum suture during septoplasty without nasal packing is safe and effective.[6,7] However, only septoplasty was performed in most of these studies, and turbinoplasty was usually omitted. Septoplasty without inferior turbinate reduction cannot totally resolve nasal obstruction. If inferior turbinate reduction is performed simultaneously with a microdebrider to reduce the soft tissue of a hypertrophied inferior turbinate, nasal packing is always inevitable. This study was designed to combine the septum suture technique with inferior turbinate coblation during septoplasty and turbinoplasty. To the best of our knowledge, this study is the first time the 2 techniques have been combined during septoplasty and inferior turbinate reduction, eliminating the need for nasal packing.

Materials and methods

Patients

A total of 135 patients suffering from nasal obstruction due to nasal septum deviation and inferior turbinate hypertrophy were recruited for this study. All subjects were of the Han nationality and ranged in age from 18 to 60 years. Hypertension, diabetes, cardiac issues and other health problems were excluded. A CT scan was performed to preclude any other nasal diseases. Routine preoperative laboratory tests were normal for all subjects. Procedures were performed in the ENT department of the People's Hospital of Peking University in China, and all subjects gave informed written consent after acknowledging full understanding of the study. The study was approved by the Ethics Committee of Peking University, and was performed in accordance with the principles stated in the Declaration of Helsinki. Patients were equally allocated into 3 groups randomly matched for age and gender.

Patients in group 1 received treatment by microdebrider with packing. Merocel R was used for nasal packing after septoplasty and powered inferior turbinate reduction. Patients in group 2 received coblation with packing. Merocel R was used for nasal packing after septoplasty and inferior turbinate coblation. Patients in group 3 had coblation with suturing. Septal suture and inferior turbinate coblation were performed after septoplasty without nasal packing.

Surgical procedure

1. Septoplasty and powered turbinoplasty

Endoscopic septoplasty was performed by a standard technique under general anesthesia. After muco-perichondrio-periostal elevation, the deviated bony septum was removed and the cartilaginous part was retained and repositioned. Any visible residual deviation within the cartilage was weakened by multiple incisions.

In group 1, the hypertrophy of the inferior turbinate was reduced with a powered microdebrider in a classic technique.[8] Two pieces of Merocel (Metronic Xomed, Jacksonville, FL, USA) were inserted into both nostrils at the conclusion of surgery and the tampons were removed during the following 24—48 h.

2. Coblation of the inferior turbinate

In groups 2 and 3, inferior turbinate reduction with coblation followed the previous protocol.[9] Briefly, the nasal cavity was topically anesthetized with surgical neuro patties soaked with dicaine. The hypertrophy of the inferior turbinate was infiltrated with 2.5 ml of 1% lidocaine. First, outfracture was performed by an elevator to fracture the inferior turbinate laterally, and then coblation (Arthrocare Corp., Sunnyvale, CA) was performed. The wand was kept in position for 15 s at power level 4; withdrawal was performed at coagulation mode. The coblation wand was inserted into the mucosal enlargement in the anterior, the middle and the posterior portion of the inferior turbinate. The number and depth of passes were determined by the preoperative turbinate size and visual shrinkage during the procedure. For the subjects in group 2, 2 pieces of Merocel R were also inserted into both nostrils after surgery and were removed within 24—48 h. In group 3, no postoperative packing was placed in the nasal cavity after surgery.

3. The septal suture technique

In group 3, the continuous quilting suturing technique was performed with a slight modification.[10] Briefly, a 4.0 Vicryl Rapide (violet braided) absorbing suture was used