Braz J Otorhinolaryngol. 2016;82(2):131–139

Brazilian Journal of
OTORHINOLARYNGOLOGY
www.bjorl.org

ORIGINAL ARTICLE

Comparison of turbinoplasty surgery efficacy in patients with and without allergic rhinitis☆,☆☆

Rodrigo Hamerschmidt[a,f,*], **Rogério Hamerschmidt**[a,b,f], **Ana Tereza Ramos Moreira**[b,c], **Sérgio Bernardo Tenório**[b,d], **Jorge Rufno Ribas Timi**[b,e]

[a] *Department of Otorhinolaryngology, Universidade Federal do Paraná (UFPR), Curitiba, PR, Brazil*
[b] *Hospital de Clínicas, Universidade Federal do Paraná (UFPR), Curitiba, PR, Brazil*
[c] *Department of Ophthalmology, Universidade Federal do Paraná (UFPR), Curitiba, PR, Brazil*
[d] *Department of Anesthesiology, Universidade Federal do Paraná (UFPR), Curitiba, PR, Brazil*
[e] *Vascular Surgery, Universidade Federal do Paraná (UFPR), Curitiba, PR, Brazil*
[f] *Clinical Surgery, Universidade Federal do Paraná (UFPR), Curitiba, PR, Brazil*

Received 26 July 2014; accepted 23 January 2015
Available online 6 November 2015

KEYWORDS
Turbinates;
Rhinitis;
Olfaction disorders;
Smell;
Snoring;
Nasal obstruction

Abstract
Introduction: Turbinoplasty is a procedure that aims to reduce the size of the inferior turbinate through exuberant bone removal with high mucosal preservation. The procedure is recommended for patients with or without allergic rhinitis and those showing irreversible hypertrophy of inferior turbinates.
Objective: To evaluate the efficacy of inferior turbinoplasty for obstructive and non-obstructive symptoms in patients with or without allergic rhinitis.
Methods: Prospective study with 57 patients who underwent inferior turbinoplasty. They were evaluated for nasal obstruction, snoring, facial pressure, smell alterations, sneezing, nasal itching and runny nose symptoms, surgery time, and intraoperative bleeding. The last evaluation took place three months after surgery.
Results: Thirty-nine patients with allergic rhinitis and 18 without were assessed. Ninety days after surgery, 94.7% of patients showed degrees IV and V of breathing improvement; 89.5% showed moderate or complete improvement in snoring; all patients showed smell improvement (only one showed moderate improvement; all the others had full improvement); 95.5% experienced complete facial pressure improvement; and 89.7% showed moderate to complete improvement in nasal itching and runny nose symptoms, as well as in sneezing.

☆ Please cite this article as: Hamerschmidt R, Hamerschmidt R, Moreira ATR, Tenório SB, Timi JRR. Comparison of turbinoplasty surgery efficacy in patients with and without allergic rhinitis. Braz J Otorhinolaryngol. 2016;82:131–9.
☆☆ Institution: Universidade Federal do Paraná (UFPR), Curitiba, PR, Brazil.
* Corresponding author.
E-mail: rodrigohsch@hotmail.com (R. Hamerschmidt).

http://dx.doi.org/10.1016/j.bjorl.2015.10.010

Conclusion: The efficacy of inferior turbinoplasty was confirmed not only for obstructive symptoms, but also for non-obstructive symptoms in patients with and without allergic rhinitis.

PALAVRAS CHAVE
Conchas nasais;
Rinite;
Duração da cirurgia;
Olfato;
Ronco;
Obstrução nasal

Comparação da eficácia da turbinoplastia em pacientes com e sem rinite alérgica

Resumo
Introdução: A turbinoplastia é procedimento que visa a redução da concha inferior, à custa da remoção óssea exuberante e maior preservação da mucosa. É indicada para pacientes com e sem rinite alérgica, com hipertrofia irreversível das conchas inferiores.
Objetivo: Avaliar a eficácia da cirurgia de turbinoplastia inferior nos sintomas obstrutivos e não obstrutivos em pacientes com e sem rinite alérgica.
Método: Estudo prospectivo com 57 pacientes submetidos a turbinoplastia inferior. Foram avaliados quanto à obstrução nasal, roncos, pressão facial, alterações no olfato, espirros, prurido nasal e coriza, tempo de cirurgia e sangramento intraoperatório. A última avaliação foi com 3 meses de operação.
Resultados: 39 pacientes com rinite alérgica e 18 sem. Com 90 dias de operação, 94,7% dos pacientes apresentaram graus IV e V de melhora na respiração; 89,5% apresentaram melhora moderada ou total dos roncos; todos os pacientes tiveram melhora no olfato (apenas 1 moderada, os demais melhora total); 95,5% obtiveram melhora total da pressão facial e 89,7% obtiveram melhora moderada ou total em prurido nasal, espirros e coriza.
Conclusão: Comprovou-se a eficácia da cirurgia de turbinoplastia inferior não só nos sintomas obstrutivos, mas também nos sintomas não obstrutivos tanto em pacientes com ou sem rinite alérgica.

Introduction

Nasal obstruction affects approximately 25% of the population.[1] It is a symptom that can affect people of all ages and ethnicities. It has some degree of morbidity, which varies with the severity and cause of nasal obstruction. The main causes are: septal deviation, inferior and medial turbinate hypertrophy, nasal polyps, and pharyngeal tonsil hypertrophy.[1] Of all of these alterations, inferior turbinate hypertrophy is the most common cause of nasal obstruction.[2] The leading causes of inferior turbinate hypertrophy are allergic rhinitis, vasomotor rhinitis, and septal deviation (compensatory hypertrophy).[3] Bilateral nasal obstruction usually occurs with mucosal disease. When associated with watery rhinorrhea, sneezing, and nasal itching, it is characteristic of nasal mucosa inflammatory edema, especially of allergic nature.[4]

Rhinitis is the inflammation of the nasal mucosal lining, characterized by the presence of one or more symptoms: nasal congestion, rhinorrhea, sneezing, itching, and hyposmia.[5] Nasal obstruction is one of the most inconvenient symptoms for the patient.[4] The diagnosis of allergic rhinitis includes personal and family history of atopy, physical examination, and complementary exams. The diagnosis is essentially clinical, taking into account the association of the several symptoms.[5] The most important complementary exams in the diagnosis of allergic rhinitis, for both specificity and sensitivity, are immediate hypersensitivity skin prick test (SPT) using the puncture technique and evaluation of serum levels of allergen-specific IgE.[5]

The determination of specific IgE *in vitro* may be accomplished by several enzyme immunoassay methods, and more recently, by immunofluorescence. Specific IgE assay *in vitro* for individual allergens, when performed with standardized antigens and adequate technique, has operational characteristics (sensitivity and specificity) that are similar to those of the skin prick test: sensitivity of 89% and specificity of 91%.[5] Treatment includes both non-pharmacological – environmental control – and pharmacological measures. The latter are based on antihistamines, decongestants, topical and systemic corticoids, and other medications such as ipratropium bromide, chromoglycate disodium, and antileukotrienes.

Immunotherapy and the use of saline solution for nasal irrigation are other choices. Modern pharmacology offers many options for clinical treatment of inferior turbinate hypertrophy, whatever the source is. However, although still a controversial issue, most authors agree that when clinical treatment is not sufficient to provide adequate nasal airways, surgical treatment should be indicated.[6,7]

Surgical treatment of allergic rhinitis refractory to clinical treatment is directed to the inferior turbinates and