Otolaryngology online journal

ISSN – 2250-0359 Volume 4 Issue 1 2014

The submucous vasotomy in the treatment of hypertrophic rhinitis

Sacko HB

Health reference center of district IV Bamako Mali

Abstract

INTRODUCTION

The chronic hypertrophic rhinitis represents a common pathology in a tropical environment favored by exogenous and endogenous factors (climate, dust, gas pollutants ...). The nasal mucosa is usually traumatized by most conventional surgical treatment leading to changes in nasal mucosal (atrophia, crusting...).

Objective

The aim of this work was to confirm the place of a new surgical method in the treatment of hypertrophic rhinitis in a tropical environment.

PATIENTS AND MÉTHODS

It's a study in the ENT department of the health centre of reference (from district IV Bamako) having involved 65 patients (35 male and 30 female with an average age of 28 years) with hypertrophic rhinitis not cured by medical treatment between February 2011 and January 2012.

This new method, the submucosal vasotomy was carried out after an application with 2% lidocain (local anesthesia) by a detachment under mucosa followed from a lightweight curettage of the bone part of the hypertrophied turbinate.

RESULTS AND DISCUSSION

The method allowed making more permeable the nasal cavity in 80% of cases. This technique helped no formation of crusts and adhesions in the nasal cavity. Regular monitoring of patients allowed to confirm the place of this technique in the management of patients with hypertrophic obstructive rhinitis.

CONCLUSION

The submucous vasotomy represents for us a useful method for addressing the problems related to support for the chronic hypertrophic rhinitis not cured by medical treatment in a tropical environment.

INTRODUCTION

The chronic hypertrophic rhinitis represents a common pathology in tropical environment (1, 2, 3, 4). Exogenous and endogenous factors (climate, dust, gas pollutants, disorders neuro-circulatory...) favors this type of rhinitis (5, 1, 2, 3, 4, 6). Many of classical surgical treatment proposed in rhinology cause often problems in the nasal mucosa in our tropical environment (dry and hot) (3,4, 6, 7, 8).

OBJECTIVE

The aim of our study was to confirm the place of a new surgical method for the treatment of chronic rhinitis hypertrophic in a tropical environment.

PATIENTS AND METHODS

Patients

It's a study conducted between February 2011 and January 2012 in the department of Otorhinolaryngology Health reference center of district IV Bamako and having involved 65 patients (35, male and 30 female with an average age of 28 years) with chronic hypertrophic rhinitis non-cured by medical treatment. Nasal obstruction was present in all our patients associated with other signs

(serous rhinorhea, sero-mucous rhinorrhea, headache, hyposmia, dry throat, rhinolalia closed, fatigability...).

All patients presented hypertrophy of the inferior turbinate in the clinical examination.
Were excluded from the study patients who had a deviated nasal septum associated with hypertrophy of the turbinate

Methods

The patients underwent rhinological routine examinations (anterior rhinoscopy, nasofibroscopy, Rx of the sinuses, Tomodensitometry of sinuses...) and a classic preoperative check-up for local anesthesia.
-Material consisted of: standard instruments (straight spatula whith a ridged tooth, scalpel blade, nasal speculum, front light), lidocain 0.5% or 1%, 5%, band, compress, antibiotic ointment, syringe for infiltration anesthesia….
-Premedication was carried out three days before the intervention (with a hemostatic per os) and the day of the surgery (hemostatic, antalgic).
-The first time of the intervention consisted of a retraction of the mucosa of hypertrophied turbinates by application of swab of the lidocain whith naphazolin 5% for 10 minutes, then an infiltration anesthesia along the turbinate with lidocain 0.5 or 1% (2-3 ml) was performed according to the tolerance of products and in the absence of general contraindications for the surgical act.
(-The second time was to make a vertical section of the turbinate (0, 3-0, 5 cm) into its bony part in depth)(fig.1).
-Then it introduced the spatula in the turbinate by performing a movement of curettage of the submucous part of the incised turbinate from front to back and top to bottom (fig.1).
-Nasal anterior packing was placed at the end of the intervention.
-In postoperative washing nasal saline or sea salt drops-associated antibiotic nasal and corticosteroids have been established for 3-4 weeks to heal.

MECHANISM OF ACTION OF THE TECHNIQUE

This intervention is based on the disturbance caused to local microcirculation of the bony part of the turbinate in particular arteriovenous anastomoses promoting a reduction in the size of the turbinate by caused atrophy of the submucous part of the turbinate which provide for the recovery of a good nasal

breathing (fig. 2). The lining of the nasal mucosa is well respected which avoids the risk of adhesions and crusted rhinitis usually occurring during conventional surgical gestures indicated for this type of rhinitis.

EVALUATION OF THE TECHNIQUE

-Evaluation of the effectiveness of the treatment was made in three months and 24 months on the symptom of nasal obstruction:

-A three months - the improvement was clear for all patients

-A 24 months the result was satisfactory in 58 patients (89.23%), moderately satisfying in 6 patients (9.23%) and unsatisfactory only in one patient (1.53%).

-None of our patients had used vasoconstrictors after the operation.

-We only noted no immediate and late complications related to surgery.

-Intervention lasted on average 20 minutes

COMMENTARY

Hypertrophic rhinitis is a more common pathology in a tropical environment, several factors are cited: allergy, dry and hot climate, humidity and pollution... (1, 2, 3, 4, 5).Nowadays treatment is often difficult and some patients are not relieved by many classically known surgical techniques: Chemical Cauterization, galvano-cautery, cryotherapy(9, 4, 6, 8), total or partial turbinectomy, ultrasound surgery, nitrogen liquid (10, 11, 6, 8), vacuum cavernosotomy, power microdebrider, lasers, bipolar radiofrequency,...)(12, 13, 14, 6, 8).

His interventions do not seem to respect good mucociliary function as can traumatize the nasal mucosa by promoting the formation of crusts, adhesions and other rhinological diseases (subatrophic rhinitis, atrophic rhinitis ...) in most cases(15, 16, 17, 18, 4.8).

Also it seemed appropriate to assert the vasotomy submucosal technique in our climatic conditions by doing this work. It must be recognized that this technique was first carried out by Prof. Piskounov (1) under other climatic conditions.

Our results confirm the place of this technique in the surgical management of hypertrophic rhinitis patients in a tropical environment.

The method is less expensive for our poor population, respects the mucosal function of the nasal cavity with a short time for intervention.

CONCLUSION

The submucous vasotomy is an effective technique in the management of nasal obstruction of the hypertrophic obstructive chronic rhinitis in a tropical environment.

Our study confirms his respect for the (less traumatic to the nasal mucosa) mucociliary function, evidenced by the absence in our patients of crusty atrophic rhinitis, adhesions or other pathologies related to surgical intervention.

REFERENCE

1. HB Sacko A.AG Mohamed. Evaluation de l'efficacité clinique et de la tolérance de la cétirizine dans le traitement de la rhinite allergique.médecine d'afrique noire : 1996, 43(4), 246-248.
2. A.AG Mohamed, Sacko HB .Profil bactériologique des sinusites maxillaires purulentes observées dans le service orl de l'hôpital gabriel touré de bamako (mali). mali médical 1995 10(1&2), 9-11.
3. Odetoyinbo O. Complications following total inferior turbinectomy: facts or myths? clin otolaryngol allied sci. 1987 oct;12(5):361-3.
4. Iseh KR, Makusidi MM, Aliyu D. Surgical management of chronic rhinosinusitis in north western nigeria and challenges for the future. niger j med. 2009 jul-sep;18(3):277-81.
5. Balasubramanian TY, Yahia A B. Role of anatomical obstruction in the pathogenesis of chronic sinusitis. otolaryngology online journal vol 2, no 3 (2012)
6. Gindros G, Kantas I, Balatsouras DG, Kaidoglou A, Kandiloros D. Cmparison of ultrasound turbinate reduction, radiofrequency tissue ablation and submucosal cauterization in inferior turbinate hypertrophy. eur arch otorhinolaryngol. 2010 nov;267(11):1727-33.
7. Marple BF. Allergic rhinitis and inflammatory airway disease: interactions within the unified airspace. am j rhinol allergy. 2010 jul-aug;24(4):249-54.
8. Sariush-zalesskiĭ iuf, Lokshina LS, Zalesskaia IA. On the treatment of chronic hypertrophic rhinitis. vestn otorinolaringol. 2010;(4):72-3. russian.

9 Ozenberger JM. Cryosurgery for the treatment of chronic rhinitis. laryngoscope. 1973 apr;83(4):508-16.
10 Ikeda K, Oshima T, Suzuki M, Suzuki H, Shimomura A. Functional inferior turbinosurgery (fits) for the treatment of resistant chronic rhinitis. acta otolaryngol. 2006 jul;126(7):739-45.
11 Goode RL. A liquid nitrogen turbinate probe for hypertrophic rhinitis. arch otolaryngol. 1977 jul;103 (7):431.
12 Ferri E, García Purriños FJ, Ianniello F, Armato E, Cavaleri S, Capuzzo P.
Surgical treatment of inferior turbinate hypertrophy with argon plasma: a long-term follow-up in 157 patients acta otorrinolaringol esp. 2004 jun-jul;55(6):277-81. spanish.
13 Chen YL, Tan CT, Huang HM. Long-term efficacy of microdebrider-assisted inferior turbinoplasty with lateralization for hypertrophic inferior turbinates in patients with perennial allergic rhinitis. laryngoscope. 2008 jul;118(7):1270-4.
14 Lapchenko AS, Voznesenskiĭ NL. Use of surgical co2 lasers in pathological states of ent organs]. vestn otorinolaringol. 1989 jul-aug;(4):70-3. russian.
15 Gindros G, Kantas I, Balatsouras DG, Kandiloros D, Manthos AK, Kaidoglou A.
Mucosal changes in chronic hypertrophic rhinitis after surgical turbinate reduction. eur arch otorhinolaryngol. 2009 sep;266(9):1409-16.
16 Abdel-latif SM, Baheeg SS, Aglan YI, Babin RW, Giltman LI. Chronic atrophic rhinitis with fetor (ozena): a histopathologic tretise. rhinology. 1987 jun;25(2):117-20.
17 Pomukhina AN, Lokshina LS, Panchenko SN. Morphological changes in the nasal mucosa after diathermo-coagulation in chronic hypertrophic rhinitis.vestn otorinolaringol. 1990 jan-feb; (1):48-52. russian.
18 Liu N, Zhu P. Morphological study on chronic hypertrophic rhinitis treated with cryosurgery]. zhonghua er bi yan hou ke za zhi. 1999 feb;34(1):36-7. chinese.
19 Piskunov SZ. On the impact of surgery on mucosal vessels of the turbinates (10 years of submucosal vasotomy). vestn otorinolaringol. 1999;(2):19-22. russian.

Figure N ° 1 Incision of the turbinate and movements of the spatula in the submucous tissue

a)line of incision of the turbinate

b)directions of the spatula in the submucous tissue

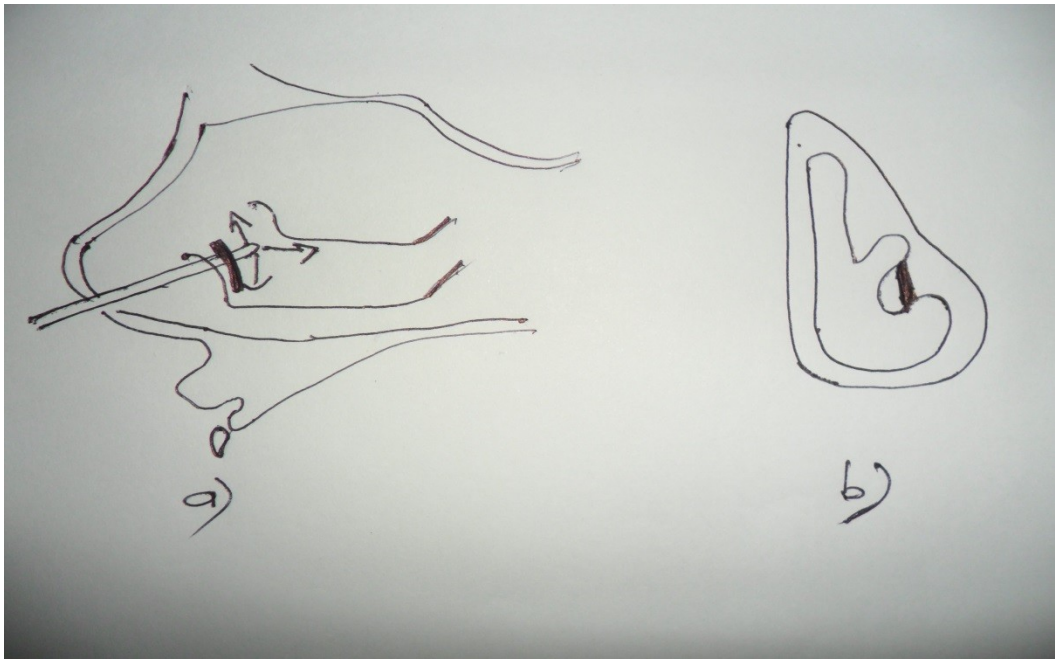

Figure N°2

Benefit of the submucosal vasotomy on the mucosa of the turbinate (**a**- hypertrophied turbinate before operation, **b** - beneficial narrowing of the operated turbinate made for an increase in the space between the nasal septum and the operated turbinate)