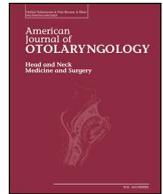




ELSEVIER

Contents lists available at ScienceDirect

Am J Otolaryngol

journal homepage: www.elsevier.com/locate/amjoto

The rhinogenic headache resulting from the contact point between inferior turbinate and septal spur^{*}

ARTICLE INFO

Keywords:

Rhinogenic headache
Inferior turbinate
Septal spur

We read with interest the manuscript by Altin et al. [1] entitled “Is septoplasty effective rhinogenic headache in patients with isolated contact point between inferior turbinate and septal spur?”. Although the authors suggested that isolated contact point between inferior turbinate and septal spur could be the etiology of rhinogenic headache, surgical correction provides a more effective outcome for these patients, some potential issues should be addressed. In my opinion, the conclusion is contradictory, the authors mentioned that surgical correction provides a more effective outcome in patients with rhinogenic headache, subsequently they said that it is difficult to convince that headache may improve with surgery in these patients especially with isolated mucosal contact point and without nasal obstruction. I don't understand more effective outcome was concluded after surgical correction for which patients with rhinogenic headache in this study.

“One hundred patients with isolated mucosal contact point without any problem in breathing were included in this study” in abstract section, however, “58 of patients were female, 41 of patients were male. 51 of patients accepted surgery while 48 of patients did not accept.” In result section, only 99 patients were analyzed. The authors described “the test was done with a pledget of cotton soaked with a 10% solution of lidocaine placed on the point of contact. If patients reported pain relief > 50% within 10 to 15 min, the test was considered to be positive.” In material and methods section, the authors didn't state the number of the patients in the lidocaine-positive and negative groups and compared the VAS scores of before and after treatment for two kinds of patients in results section. It seems that lidocaine test was needless. Abu-Samra et al. [2] found that the overall satisfaction from surgical results were not significantly different between lidocaine-positive and negative groups. In addition, the authors described “topical nasal steroid treatment was applied for a month” in material and methods section. What is the rationale of giving topical corticosteroid treatment? Why isn't other medicine treatment selected? Moreover, why would VAS scores at 6th month increased when compared with VAS scores of 1st month in the continued medical treatment group? Did drug resistance occur for these patients due to long-term use of nasal steroid? Theoretically, the effective outcome at 6th month was more significant than that of 1st month.

Although the headache resulting from intranasal mucosal contact point had been realized, the causal relationship of headache and mucosal contact point remained controversial and the evidence was scarce [3,4]. Most of scholars believed that nasal mucosal contact point was a possible cause of headache [5,6]. However, others scholars suggested that the presence of contact points at endoscopy or on CT scan is not pathognomonic of headache, the presence of facial pain and a nasal mucosal contact point represent a coincidence rather than a causal relationship [7,8]. Harrison et al. [9] found that the removal of a contact point rarely results in the total elimination of facial pain making the theory that a contact point is responsible unlikely. The improvement in postoperative symptoms following the removal of contact points in some patients could be due to cognitive dissonance or neuroplasticity. We found that most of patients with headache and mucosal contact point were usually accompanied by depression and anxiety and sleep disorders in clinical, especially for the patients with female. Some headaches resulting from depression and anxiety and sleep disorders could be overmuch diagnosed as rhinogenic headache. In this case, mucosal contact point and depression and anxiety may be comorbid conditions. The authors didn't exclude these patients in this study. In addition, this study only excluded the patients with more than one mucosal contact and with anatomical nasal variations [1]. However, recent studies showed that headache was related to the smaller paranasal sinus volumes and/or hyperpneumatized sinuses [10,11].

This study included the patients with intranasal mucosal contact point between inferior turbinate and nasal septum [1], however, the contact area between inferior turbinate and nasal septum wasn't detailedly classified, including upper, lower, anterior, and posterior area of nasal septum. We found that the contact between lower and anterior area of nasal septum and inferior turbinate rarely caused headache, only these patients with the contact between upper or posterior nasal septum and inferior turbinate occasionally had complaint of headache. Some scholars found no correlation between septal spurring and the sidedness of headaches [12–14]. Giacomini [15] and Behin [16] et al. believed that the mucosal contact between septal spurs and hypertrophies of the lower turbinates couldn't be the cause of headache, only the mucosal contact areas between the upper component of the middle

^{*} In consideration of the American Journal of Otolaryngology's reviewing and editing my submission, the author(s) undersigned transfers, assigns and otherwise conveys all copyright ownership to Elsevier Inc. in the event that such work is published in the American Journal of Otolaryngology.

turbinate and the upper turbinate and septum should be considered important. In addition, the authors didn't also explain the contact degree between inferior turbinate and septal spur. We believed that only single mucosal contact without pressure didn't caused headache unless the contact point was pressured. Peric et al. [17] found that pressure between mucosal surfaces in small area of septal spur peak results in more intensive sense of pain than in the cases of septal deviation and concha bullosa. We speculated that the pressure between hyperplasia of fibrosis of inferior turbinate mucosal and bone of nasal septum could result in the chronic compression pain of head and face, however, the contact of simple mucosal edema may not be sufficient to induce the pain.

Funding source

No.

Declaration of competing interest

No.

References

- [1] Altin F, Haci C, Alimoglu Y, Yilmaz S. Is septoplasty effective rhinogenic headache in patients with isolated contact point between inferior turbinate and septal spur? *Am J Otolaryngol* 2019;40:364–7.
- [2] Abu-Samra M, Gawad OA, Agha M. The outcomes for nasal contact point surgeries in patients with unsatisfactory response to chronic daily headache medications. *Eur Arch Otorhinolaryngol* 2011;268:1299–304.
- [3] Smith BC, George LC, Svider PF, Nebor I, Folbe AJ, Sheyn A, et al. Rhinogenic headache in pediatric and adolescent patients: an evidence-based review. *Int Forum Allergy Rhinol* 2019;9(9):443–51.
- [4] Herzallah IR, Hamed MA, Salem SM, Suurna MV. Mucosal contact points and paranasal sinus pneumatization: does radiology predict headache causality? *Laryngoscope* 2015;125:2021–6.
- [5] Tosun F, Gerek M, Ozkaptan Y. Nasal surgery for contact point headaches. *Headache* 2000;40:237–40.
- [6] Ferrero V, Allais G, Rolando S, Pozzo T, Allais R, Benedetto C. Endonasal mucosal contact points in chronic migraine. *Neurol Sci* 2014;35(Suppl. 1):83–7.
- [7] Abu-Bakra M, Jones NS. Does stimulation of nasal mucosa cause referred pain to the face? *Clin Otolaryngol Allied Sci* 2001;26:430–2.
- [8] Parsons DS, Batra PS. Functional endoscopic sinus surgical outcomes for contact point headaches. 34 patients who presented with headaches as one of their primary. *Laryngoscope* 1998;108:696–702.
- [9] Harrison L, Jones NS. Intranasal contact points as a cause of facial pain or headache: a systematic review. *Clin Otolaryngol* 2013;38:8–22.
- [10] Aydemir L, Doruk C, Çaytemel B, Şahin B, Şahin E, Çelik M, et al. Paranasal sinus volumes and headache: is there a relation? *Eur Arch Otorhinolaryngol* 2019. <https://doi.org/10.1007/s00405-019-05461-1>. May 16. [Epub ahead of print].
- [11] Caylakli F, Cagici AC, Yilmazer C, Ozer F, Ozluoglu L. Hyperaeration of the frontal sinus. *Auris Nasus Larynx* 2006;33:471–3.
- [12] Mehle ME, Kremer PS. Sinus CT scan findings in “sinus headache” migraineurs. *Headache* 2008;48:67–71.
- [13] Abu-Bakra M, Jones NS. The prevalence of nasal contact points in a population with facial pain and a control population. *J Laryngol Otol* 2001;115:626–32.
- [14] Bieger-Farhan AK, Nichani J, Willat DJ. Nasal septal mucosal contact points: associated symptoms and sinus CT scan scoring. *Clin Otolaryngol* 2004;29:165–8.
- [15] Giacomini PG, Alessandrini M, De Padova A. Septoturbinal surgery in contact point headache syndrome: long-term results. *Cranio* 2003;21:130–5.
- [16] Behin F, Behin B, Bigal ME. Surgical treatment of patients with refractory migraine headaches and intranasal contact points. *Cephalalgia* 2005;25:439–43.
- [17] Peric A, Rasic D, Grgurevic U. Surgical treatment of rhinogenic contact point headache: an experience from a tertiary care hospital. *Int Arch Otorhinolaryngol* 2016;20:166–71.

Zhengcai Lou*

Department of Otorhinolaryngology, Yiwu Central Hospital, Yiwu City
322000, Zhejiang Province, China
E-mail address: louzhengcai@163.com.

* Department of Otorhinolaryngology, Yiwu Central Hospital, 699 Jiangdong Road, Yiwu City, 322000, Zhejiang Province, China.