

A study of effectiveness of surgical treatment for primary and secondary atrophic rhinitis

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Abstract

Background: Atrophic rhinitis can be a crippling disease. Medical treatment has aimed at reducing symptoms and complaints to allow the afflicted patient a better quality of life. **Aims and Objectives:** To study effectiveness of surgical treatment for primary and secondary atrophic rhinitis. **Methodology:** This was a cross-sectional study at the Outpatient Department of E.N.T. from August 2015 to August 2016 in the 50 patients. A Detailed clinical and demographic history was taken. A Detailed Otolaryngoscopic examination was done primary and secondary patients atrophic rhinitis was diagnosed and causes of secondary rhinitis was also investigated. These Primary and secondary rhinitis were treated by Young's operation and conservatively as per the need of patient. **Results:** Primary atrophic rhinitis closure done Unilateral in 66.67% and Bilateral in 33.33%. In Secondary atrophic rhinitis, Partial 56.67% and Complete in 43.33% and Unilateral 66.67% and Bilateral in 33.33%. Primary atrophic rhinitis Complete cure found in 73.33% and Partial cure in 16.66% cases. In Secondary atrophic rhinitis Complete cure found in 80.00% and Partial cure in 10.00% cases. **Conclusion:** It can be concluded in our study that the surgical line of treatment like partial closure found better results in the secondary atrophic rhinitis.

Key Words: Primary atrophic rhinitis, Secondary atrophic rhinitis, Young's operation.

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INTRODUCTION

Atrophic rhinitis can be a crippling disease. Medical treatment has aimed at reducing symptoms and complaints to allow the afflicted patient a better quality of life. Treatment of atrophic rhinitis is not so much controversial as it is varied.^{1,3} Several approaches have been used that are either primarily medical, primarily surgical, or a combination of both approaches. Aggressive nasal hygiene with regular intranasal irrigation remains the standard of conservative therapy and assists by

producing minimizing crusting and restoring nasal hydration.¹ Commonly used irrigation solutions include normal saline solution, sodium bicarbonate, aminoglycoside topical therapy, and plain water. Systemic or topical antibiotic irrigations are generally reserved for patients who have atrophic rhinitis that is the result of acute infection or that is indicated by positive cultures. Such antibiotics include tetracycline, aminoglycosides, and ciprofloxacin.¹ Vasodilators and topical steroids may also provide palliative results.² A variety of surgical procedures exist to address the symptoms of atrophic rhinitis. Surgical principles for atrophic rhinitis have a long and plentiful developmental history. In 1873, Rouge recommended curettage and removal of the entire atrophic mucosa in the nose. In 1900, Gersuny injected paraffin under the nasal mucosa, which heralded the era of implants. In 1948, Rethi constructed a baffle from the septum to obstruct the nasal cavities and also used transplantation of Stensen's duct, which had originally been reported by Wittmaack in 1919.² In 1967, Young⁸ described a staged method of

bilateral closure of the nostrils that had been performed in a small number of patients. This was done by raising skin flaps within the nostrils and suturing the folds together to allow effective closure of the nostril. Unilateral closure was first completed, and at the time of closure of the contralateral nostril, the opportunity was taken to re-open and examine the previously sutured nasal cavity. Young reported that crusting and purulent debris had disappeared upon such re-opening and that with time the nasal mucosa returned to a pink, healthy appearance.⁸ Regeneration of ciliated epithelium and mucous glands was found on histologic examination. In 1971, Gadre and colleagues⁹ reported on a modification of Young's procedure and demonstrated the disappearance of crusting at six months after such modified procedures. Serial endoscopic examinations over several years showed some mucosal regeneration when modifications of Young's original procedure were used.

MATERIAL AND METHODS

This was a cross-sectional study at the Outpatient Department of E.N.T. from August 2015 to August 2016 in the 50 patients. A Detailed clinical and demographic history was taken. A Detailed Otolaryngoscopic examination was done primary and secondary patients atrophic rhinitis was diagnosed and causes of secondary rhinitis was also investigated. These Primary and secondary rhinitis were treated by Young's operation and conservatively as per the need of patient.

RESULT

Table 1: Primary atrophic rhinitis closure

Type	No. of Cases	Percentage
Unilateral	20	66.67
Bilateral	10	33.33

Primary atrophic rhinitis closure done Unilateral in 66.67 % and Bilateral in 33.33 %.

Table 2: Secondary atrophic rhinitis closure

Type	No. of Cases		Total
	Unilateral	Bilateral	
Partial	12 (40.00)	5 (16.67)	17 (56.67)
Complete	8 (26.67)	5 (16.67)	13 (43.33)
Total	20 (66.67)	10 (33.33)	30 (100.00)

In Secondary atrophic rhinitis, Partial 56.67 % and Complete in 43.33% and Unilateral 66.67 % and Bilateral in 33.33%.

Table 3: Primary atrophic rhinitis

Results	No. of cases	Percentage
Complete cure	22	73.33
Partial cure	5	16.66
Failure	3	10.00

Primary atrophic rhinitis Complete cure found in 73.33% and Partial cure in 16.66% cases.

Table 4: Secondary atrophic rhinitis

Results	No. of cases	Percentage
Complete cure	16	80.00
Partial cure	2	10.00
Failure	1	5.00

In Secondary atrophic rhinitis Complete cure found in 80.00% and Partial cure in 10.00% cases.

DISCUSSION

Chronic atrophic rhinitis is one of the noncurable diseases which resists all forms of medical treatment. As the main underlying mechanism of its occurrence is the wide nasal cavity, no conservative treatment of any type can cure the disease, so long as the nasal cavity remains uncorrected (Fanous and Baxter, 1978¹⁰). Nearly all workers are agreed that surgery is more favourable and advise variable surgical methods and techniques (Taylor and Young, 1961¹¹; Girgis, 1966¹²). The operations devised for atrophic rhinitis are numerous, and this denotes that none of them is entirely satisfactory. Most of them are aimed at narrowing the wide nasal cavity by different means. Young (1971) claimed that complete closure of the anterior nares could cure atrophic rhinitis. The period of closure varied from two to five years. Sinha *et al.* (1977)¹³ made a nine-year review of 273 cases of atrophic rhinitis treated by various surgical methods and came to the following conclusions: (1) Intra-nasal injection of placental extract can be taken as the first line of treatment in the outpatient department, as it is easy to administer, without any risk. (2) Partial nostril closure with a 3 mm hole can be used as a second line of treatment, to give certain relief to the patient. (3) Other surgical methods may not be necessary. In our study we have found that Primary atrophic rhinitis closure done Unilateral in 66.67 % and Bilateral in 33.33%. In Secondary atrophic rhinitis, Partial 56.67% and Complete in 43.33% and Unilateral 66.67% and Bilateral in 33.33%. Primary atrophic rhinitis Complete cure found in 73.33% and Partial cure in 16.66% cases. In Secondary atrophic rhinitis Complete cure found in 80.00% and Partial cure in 10.00% cases. Results were very much similar with the study by Sinha *et al.*,¹³ in which 76.6% participants had good response as compare to this study, where 67% participants had good response. All the patients who were operated (Treatment Plan 3) in this study tolerated the closure of the nostril well. Among three patients, two were relieved of their crusting, ozena, and headache. On anterior rhinoscopy they had pink healthy mucosa. The patient with fair response was a 45-year-old woman, having history of tuberculosis, which might be the factor for poor response. It shows that, of 41 patients treated by different regimes, 35 (85.4%) benefited whereas 6 (14.6%) showed poor response also similar to Rakesh Sheth *et al.*¹⁴ A total

of 24 (82.7%) patients were benefited by Group I treatment. However, three out of five patients who had poor response were irregular in treatment and follow-up. In Group II participants, intranasal injection of placentex was given in each inferior and middle turbinate of each nostril along with Treatment Plan¹.

CONCLUSION

It can be concluded in our study that the surgical line of treatment like partial closure found better results in the secondary atrophic rhinitis.

REFERENCES

1. Moore EJ, Kern EB. Atrophic rhinitis: a review of 242 cases. *Am J Rhinol* 2001; 15: 355–61.
2. Cottle M. Nasal atrophy, atrophic rhinitis, ozena: medical and surgical treatment. *J Int Coll Surg* 1958; 29:472–84.
3. Goodman WS, De Souza FM. Atrophic rhinitis. *Otolaryngol Clin North Am* 1973; 6: 773–82.
4. Pace-Balzan A, Shankar L, Hawke M. Computed tomographic findings in atrophic rhinitis. *J Otolaryngol* 1991; 20:428–32.
5. Houser SM. Empty nose syndrome associated with middle turbinate resection. *Otolaryngol Head Neck Surg* 2006; 135:972–3.
6. Clarke RW, Jones AS. Editorial: nasal airflow sensation. *Clin Otolaryngol* 1995; 20: 97–9.
7. Ramadan MF, Campbell IT, Linge K. The effect of nose breathing and mouth breathing on pulmonary ventilation. *Clin Otolaryngol* 1984; 9:136.
8. Young A. Closure of the nostrils in atrophic rhinitis. *J Laryngol Otol* 1967; 81: 515–24.
9. Gadre KC, Bhargava KB, Pradhan RY, et al. Closure of the nostrils (Young's operation) in atrophic rhinitis. *J Laryngol Otol* 1971; 85:711–4.
10. Fanous, N. and Baxter, J. D. (1978) Silastic implant in atrophic rhinitis. *Journal of Otolaryngology*, 7:541-544.
11. TAYLOR, M and YOUNG, A. (1961) Histopathological and histochemical studies on atrophic rhinitis. *Journal of Laryngology and Otology*, 75: 574-589.
12. Girgis, I. H. (1966) Surgical treatment of ozaena by dermofat graft. *Journal of Laryngology and Otology*, 80: 615-627.
13. Sinha, S. N. Sardana, D. S. And Rajvanshi, V. S. (1977) Nine year review of 273 cases of atrophic rhinitis and its management. *Journal of Laryngology and Otology*, 91: 591-600.
14. Rakesh Sheth , Vikram Patel , Vipul M Patel , Chiman S Gohil. A study of etiological factors, management, and complications of atrophic rhinitis. *International Journal of Medical Science and Public Health*. 2016; 5(03): 555-558.

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