



Vasomotor rhinitis treated by application of silver nitrate in peripheral health care facility

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Abstract

A series of 27 patients were assessed prospectively to determine the results, adverse effects and patient comfort level of treatment of vasomotor rhinitis and allergic rhinitis by silver nitrate application at inferior turbinate of nose. The patient's age ranged from 24 to 45 years. This study describes the technique used and results which were obtained after painting of the 'trigger area' of the nasal mucosa in patients with vasomotor rhinitis and allergic rhinitis. Every patient was evaluated regularly and the evaluation was based on both subjective response and clinical examination done via anterior rhinoscopy and zero degree endoscopic examination. Only those cases which presented with rhinorrhoea and sneezing as symptoms were selected. Silver nitrate (20 per cent) was used after topical anaesthesia (4% xylocaine pack), and patients received four applications. Successful relief was obtained in 75.6 per cent (58.0 per cent good relief; 17.6 per cent acceptable relief), while 20.4 per cent of the cases (6 out of 27 cases) had poor relief. No complication was seen among the patients during treatment and follow-up and no silver poisoning was detected and local infection or synecheie was observed.

Introduction

The term 'vasomotor rhinitis' includes both allergic and non-allergic perennial rhinitis. The symptoms which are characteristic of allergic rhinitis can be seen in individuals, without any specific sensitization, due to the hyper reactivity of the nasal mucosa to both endogenous as well as the exogenous stimulants^[1]. Also allergic and non-allergic mechanisms often work in conjunction perennial rhinitis, in particular, is seldom 100 per cent allergic or non- allergic, thus a vicious circle is established.^[2]

Allergy has been known to man since earliest time, and 'vasomotor rhinitis' in young and

middle-aged adults exceed other ailments seen in Ear, Nose and Throat clinics nowadays. In the ENT clinic at rural health facilities in himachal there has been a increasing number of cases of 'vasomotor rhinitis'.

There are many reports in the literature about the treatment of 'vasomotor rhinitis', but none of the methods used is without side effects, and none of them is ideal for all patients. These methods are hypo sensitization, drugs or certain surgical measures.

Hyposensitization is probably the treatment of choice in hay fever conditions, while in perennial rhinitis, it is unlikely to help.^[5] used long acting

steroids injected intratubally, to control sneezing, persistent rhinorrhoea and marked nasal obstruction and reported good results. Use of zinc ionization to treat rhinorrhoea and blocking of the nose was claimed with 72 per cent success^[18], and also cryotherapy reported good results in 76 per cent of patients treated^[15] after that use of topical disodium cromoglycate was done with some success.^[7] Antihistamines in a dosage adequate to control symptoms are often too soporific to be accepted, while nasal decongestants provide short-term relief but frequently cause severe rebound nasal congestion. Systemic steroids, though very elective, have potentially severe side effects, and topical steroids gave some improvement in some patients^[3].

The age old method of reducing the irritability of the throat by painting it with dilute solutions of silver nitrate was the basis for the new method of treating cases of 'vasomotor rhinitis' with rhinorrhoea and sneezing in our study. Local application of silver nitrate 20 per cent to certain areas on the mucosa of the inferior turbinate and septum was carried out. The treatment is simple, effective, and has few side effects.

Material and Methods

Twenty seven cases of 'vasomotor rhinitis' were selected from the out-patient clinic of civil hospital jawalamukhi and civil hospital nagrota bhagwan. Only those cases who had rhinorrhoea or sneezing, without nasal obstruction were selected, regardless of previous therapy they received. Each case was treated on the same principle. No attempt was made to distinguish between allergic and non-allergic vasomotor rhinitis.

Local chemical cautery was performed on the mid- part of the inferior turbinate and adjoining mid-portion of the septum over an area roughly 1 sq cm at each site by using a swab stick dipped in 20 per cent silver nitrate The procedure was then repeated on the other side. The area to be cauterized was first anaesthetized using a four

percent xylocaine solution applied on cotton plugs. All patients had an application of silver nitrate 20 per cent, once a week repeated for four weeks.

Results

Out of 27 patients 15 were males and 12 were females. The patient's age ranged between 24 and 45 years of age. mean age was 34 years

Sneezing was the presenting symptom in 10 of the 27 patients (37 per cent) while rhinorrhoea was the presenting symptom in 5 (18.5 per cent) and rest 12 had both rhinorrhoea and sneezing (44.5 percent)

The treatment was considered to be effective when symptoms completely disappeared or became negligible and such patients were classified as having a 'good result', while those patients who felt comfortable or were greatly relieved, were grouped under 'acceptable result'. A 'poor result' meant an absence of or insignificant relief. The two groups of results, 'good and acceptable' were considered to be successful results and were achieved in 21 of 27 cases (77.7 per cent); of these the 'good result' were 17 cases (80.9 per cent) while 'acceptable result' were 4 cases (19.1 per cent). Poor results were seen in 6 out of 27 cases (20.4 per cent).

The greatest relief obtained was from sneezing with success in 85.7 per cent of cases while 74.9 per cent of the cases with rhinorrhoea had successful relief (Table I).

The period of relief of the patient's symptoms ranged from six months up to 8 months in most of the cases.

No pigmentation on the gums observed during the course of treatment and follow-up.

Discussion

Many treatments of 'vasomotor rhinitis' have followed each other but no treatment has been accepted as the treatment of choice^[17] So the availability of an effective and a simple form of therapy free from side effects, is highly desirable.

One step in the prophylaxis of 'vasomotor rhinitis' is the avoidance of allergenic exposure, but this is often difficult and may result in emotional

problems which do not help the state of the nose [9] The second step is hyposensitization, but in perennial rhinitis the results are frequently not up to the mark. The detection of the responsible allergen (s) in this common condition, may be very difficult^[8]. Taylor and Shivalkar (1971,a, b) have confirmed that there is no quantitative relationship between the degree of skin sensitivity and the degree of nasal sensitivity to an allergen. Moreover, skin tests carry a risk of anaphylaxis and are no longer in common use.

Antihistamines are useful in the symptomatic treatment of vasomotor rhinitis. Most adults are unable to take enough antihistamine to control their symptoms without unacceptable drowsiness, or dizziness. Vidian neurectomy has been advised for those with severe rhinorrhoea not responding to medical and simple surgical remedies^[6] but this operation is not without potential complications.

Symptoms	Total no of cases	Good response	Poor response
Sneezing	10	10	0
Rhinnorhea	05	3	2
Both	12	8	4

Gill (1966) recommended intratubinal steroid injections for those patients suffering from bouts of severe sneezing, persistent watery rhinorrhoea, and marked nasal obstruction. He reported good and often pro- longed relief of nasal obstruction. Many of our patients however are reluctant to have such injections. Weir (1967) used transnasal zinc ionization to control the symptoms of 'vasomotor rhinitis' but although it gave improvement in nasal obstruction there was often no change in other symptoms.

Ozenberger (1970, 1973) used cryotherapy to control the symptoms of 'vasomotor rhinitis'. Nasal obstruction was relieved while other symptoms were not affected. Capel and McKelvie (1971) showed, in their study, that some patients were helped by disodium cromoglycate insufflations. The mode of action of disodium cromoglycate is preventive, but the

duration of its effect is short. Systemic corticosteroids are not suitable for long-term maintenance therapy but are very useful as a short course to bring the symptoms under control. Topical corticosteroids have now largely replaced systemic steroids but the absorption of active steroids from the nasal mucosa cannot be excluded and therefore, long- term use of topical steroids is not advisable (Leading Article, 1981). Nasal drops containing ephedrine HCl or naphazaline are commonly used but side effects such as reactive congestion, tachyphylaxis and rhinitis medicamentosa are frequently observed (Petruson, 1981).

Silver nitrate produces a local astringent action by coagulating albumin. (Laurence, 1973). The sensitivity and excitability of the mucous membrane of the nose seems to be reduced after treatment with silver nitrate. The middle part of the inferior turbinate and adjacent area of the septum appear to be the 'trigger area' stimulation of which leads to rhinorrhoea and sneezing. Treatment of the 'trigger area' with silver nitrate appear to reduce the sensitivity and excitability of this area and thus relief is obtained. This method of treatment with silver nitrate is simple, effective for several months and can be easily repeated if symptoms recur. The side effects are negligible and no sophisticated equipment or surgery are required. The patients readily accept the treatment and it is suitable for children. It is an outpatient procedure with minimal discomfort and inconvenience to the patient.

Conclusion

A new method of treatment of 'vasomotor rhinitis' was found to be simple and effective. The method is based on the astringent effect of local application of silver nitrate solution. No side effect was detected in this study.

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