Nasal lavage in pregnant women with seasonal allergic rhinitis: a randomized study.

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Abstract

BACKGROUND: Nasal rinsing appears particularly suitable in the management of pregnant women with seasonal allergic rhinitis since no deleterious effects on the fetus are to be expected. However, to date, no studies have specifically investigated this option.

METHODS: Pregnant women with seasonal allergic rhinitis were randomized to intranasal lavage with hypertonic saline solution 3 times daily (n = 22) versus no local therapy (n = 23) during a 6-week period corresponding to the pollen season. Patients were invited to keep a daily record of rhinitis symptoms (rhinorrea, obstruction, nasal itching and sneezing), to record consumption of oral antihistamine and to undergo rhinomanometry.

RESULTS: The rhinitis score was similar at study entry but a statistically significant improvement in this score was observed in the study group during all subsequent weeks (p < 0.001 for weeks 2-6). The mean number of daily antihistamines use per patient per week was significantly reduced at weeks 2, 3 and 6 (p < 0.001, p < 0.001 and p = 0.001, respectively). Baseline rhinomanometry performed at week 1 showed similar nasal resistance in the study and control groups. In contrast, a statistically significant difference emerged in the 2 following evaluations. At week 3, nasal resistance in the study and control groups was 0.96 +/- 0.44 and 1.38 +/- 0.52 Pa/ml/s, respectively (p = 0.006). At week 6, it was 0.94 +/- 0.38 and 1.35 +/- 0.60 Pa/ml/s, respectively (p = 0.006). No adverse effect was reported in the active group.

CONCLUSIONS: Nasal rinsing is a safe and effective treatment option in pregnant women with seasonal allergic rhinitis.

Hypersaline nasal irrigation in children with symptomatic seasonal allergic rhinitis: a randomized study.

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Comment in:


Abstract

Recent evidence suggests that nasal irrigation with hypertonic saline may be useful as an adjunctive treatment modality in the management of many sinonasal diseases. However, no previous studies have investigated the efficacy of this regimen in the prevention of seasonal allergic rhinitis-related symptoms in the pediatric patient. Twenty children with seasonal allergic rhinitis to Parietaria were enrolled in the study. Ten children were randomized to receive three-times daily nasal irrigation with hypertonic saline for the entire pollen season, which had lasted 6 weeks. Ten patients were allocated to receive no nasal irrigation and were used as controls. A mean daily rhinitis score based on the presence of nasal itching, rhinorrhea, nasal obstruction and sneezing was calculated for each week of the pollen season. Moreover, patients were allowed to use oral antihistamines when required and the mean number of drug assumption per week was also calculated. In patients allocated to nasal irrigation, the mean daily rhinitis score was reduced during 5 weeks of the study period. This reduction was statistically significantly different in the 3th, 4th and 5th week of therapy. Moreover, a decreased consumption of oral antihistamines was observed in these patients. This effect became evident after the second week of treatment and resulted in statistically significant differences during the 3th, 4th and 6th week. This study supports the use of nasal irrigation with hypertonic saline in the pediatric patient with seasonal allergic rhinitis during the pollen season. This treatment was tolerable, inexpensive and effective.
Nasal saline irrigations for the symptoms of chronic rhinosinusitis.

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Comment in:

Abstract

BACKGROUND: The use of nasal irrigation for the treatment of nose and sinus complaints has its foundations in yogic and homeopathic traditions. There has been increasing use of saline irrigation, douches, sprays and rinsing as an adjunct to the medical management of chronic rhinosinusitis. Treatment strategies often include the use of topical saline from once to more than four times a day. Considerable patient effort is often involved. Any additional benefit has been difficult to discern from other treatments.

OBJECTIVES: To evaluate the effectiveness and safety of topical saline in the management of chronic rhinosinusitis.

SEARCH STRATEGY: Our search included the Cochrane Ear, Nose and Throat Disorders Group Trials Register, the Cochrane Central Register of Controlled Trials (CENTRAL, The Cochrane Library, Issue 4 2006), MEDLINE (1950 to 2006) and EMBASE (1974 to 2006). The date of the last search was November 2006.

SELECTION CRITERIA: Randomised controlled trials in which saline was evaluated in comparison with either no treatment, a placebo, as an adjunct to other treatments or against treatments. The comparison of hypertonic versus isotonic solutions was also compared.

DATA COLLECTION AND ANALYSIS: Trials were graded for methodological quality using the Cochrane approach (modification of Chalmers 1990). Only symptom scores from saline versus no treatment and symptom and radiological scores from the hypertonic versus isotonic group could be pooled for statistical analysis. A narrative overview of the remaining results is presented.

MAIN RESULTS: Eight trials were identified that satisfied the inclusion criteria. Three studies compared topical saline against no treatment, one against placebo, one as an adjunct to and one against an intranasal steroid spray. Two studies compared different hypertonic solutions against isotonic saline. There is evidence that saline is beneficial in the treatment of the symptoms of chronic rhinosinusitis when used as the sole modality of treatment. Evidence also exists in favour of saline as a treatment adjunct. No superiority was seen when saline was compared against a reflexology 'placebo'. Saline is not as effective as an intranasal steroid. Some evidence suggests that hypertonic solutions improve objective measures but the impact on symptoms is less clear.

AUTHORS' CONCLUSIONS: Saline irrigations are well tolerated. Although minor side effects are common, the beneficial effect of saline appears to outweigh these drawbacks for the majority of patients. The use of topical saline could be included as a treatment adjunct for the symptoms of chronic rhinosinusitis.
Saline nasal irrigation: Its role as an adjunct treatment.

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Comment in:


Abstract

OBJECTIVE: To review clinical evidence on the efficacy of saline nasal irrigation for treatment of sinonasal conditions and to explore its potential benefits.

QUALITY OF EVIDENCE: Clinical trials, reviews, and treatment guidelines discussing nasal irrigation were obtained through a MEDLINE search from January 1980 to December 2001. Most trials were small and some were not controlled; evidence, therefore, is level II, or fair.

MAIN MESSAGE: Flushing the nasal cavity with saline solution promotes mucociliary clearance by moisturizing the nasal cavity and by removing encrusted material. The procedure has been used safely for both adults and children, and has no documented serious adverse effects. Patients treated with nasal irrigation rely less on other medications and make fewer visits to physicians. Treatment guidelines in both Canada and the United States now advocate use of nasal irrigation for all causes of rhinosinusitis and for postoperative cleaning of the nasal cavity.

CONCLUSION: Nasal irrigation is a simple, inexpensive treatment that relieves the symptoms of a variety of sinus and nasal conditions, reduces use of medical resources, and could help minimize antibiotic resistance
Impact of isotonic and hypertonic saline solutions on mucociliary activity in various nasal pathologies: clinical study.

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Abstract

OBJECTIVE: To investigate the impact of nasal irrigation with isotonic or hypertonic sodium chloride solution on mucociliary clearance time in patients with allergic rhinitis, acute sinusitis and chronic sinusitis.

PATIENTS AND METHODS: Mucociliary clearance time was measured using the saccharine clearance test on 132 adults before and after 10 days' application of intranasal isotonic or hypertonic saline. Patient numbers were as follows: controls, 45; allergic rhinitis, 21; acute sinusitis, 24; and chronic sinusitis, 42. The results before and after irrigation were compared using the Wilcoxon t-test.

RESULTS: Before application of saline solutions, mucociliary clearance times in the three patient treatment groups were found to be significantly delayed, compared with the control group. Irrigation with hypertonic saline restored impaired mucociliary clearance in chronic sinusitis patients (p < 0.05), while isotonic saline improved mucociliary clearance times significantly in allergic rhinitis and acute sinusitis patients (p < 0.05).

CONCLUSION: Nasal irrigation with isotonic or hypertonic saline can improve mucociliary clearance time in various nasal pathologies. However, these solutions should be selectively prescribed rather than used based on anecdotal evidence. Further studies should be conducted to develop a protocol for standardised use of saline solution irrigation in various nasal pathologies.
The effect of saline solutions on nasal patency and mucociliary clearance in rhinosinusitis patients.

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Abstract

OBJECTIVE: To compare the effect of two saline nasal sprays on nasal patency and mucociliary clearance in patients with rhinosinusitis.

STUDY DESIGN: Randomized double-blind trial.

SUBJECTS AND METHODS: Eighty patients with rhinosinusitis at a tertiary care academic center had nasal patency and mucociliary clearance measured. Each patient was then treated with either physiological or hypertonic saline. Nasal patency and mucociliary clearance measurements were repeated after treatment. Subjective evaluation was also performed.

RESULTS: Both solutions improved saccharine clearance times (P < 0.0001). Buffered physiological saline significantly affected nasal airway patency (P = 0.006). Both solutions improved symptoms of nasal stuffiness (P < 0.0001) and nasal obstruction (P < 0.0001). Buffered hypertonic saline caused increased nasal burning/irritation compared with buffered physiological saline (P < 0.0001).

CONCLUSIONS: Buffered physiological and buffered hypertonic saline nasal sprays both improve mucociliary clearance, which is beneficial for treatment of rhinosinusitis. Additionally, buffered physiological saline improves nasal airway patency, whereas buffered hypertonic saline has no effect. Both solutions provide symptomatic relief, but buffered hypertonic saline is more irritating.

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Abstract

BACKGROUND: Nasal irrigation has been used as an adjunctive therapy of sinonasal disease including acute/chronic sinusitis and allergic rhinitis. Several published articles reported it also improves clinical sinus symptoms.

OBJECTIVE: To evaluate the effectiveness of normal saline nasal irrigation in the management of acute sinusitis in children.

DESIGN: This was a randomized, prospective placebo-controlled study.

METHODS: We included 69 participants with acute sinusitis. 30 of 69 participants underwent normal saline nasal irrigation. 39 of 69 participants were not receiving nasal irrigation. All participants performed nasal peak expiratory flow rate (nPEFR) test, nasal smear examination, radiography (Water's projection) and requested to complete the Pediatric Rhinoconjunctivitis Quality of Life Questionnaires (PRQLQ) at the baseline visit. All participants were requested to record the symptom diary card every day and were followed-up every 1 week during this period. A physical examination, nasal smear and nPEFR were performed at each visit, and all daily diary cards collected. At the final visit, the symptoms diaries were reviewed and participants were requested to complete the PRQLQ again. The nPEFR, radiography (Water's projection) and nasal smear were also repeated.

RESULTS: Normal saline irrigation group significantly improved mean PRQLQ values and nPEFR values at medium (T=2.816, P<0.05) and final period (T=2.767, P<0.05) compared with the other group. Although there were no statically significant improving rate of radiography (Water's projection) in among two groups (T=0.545, P>0.05), but normal saline irrigation group was better than the other group. The improval rate of mean TSS in the irrigation group significantly improved all symptoms compared with the placebo group, in which rhinorrhea, nasal congestion, throat itching, cough and sleep quality improved. 27 of 66 (40.9%) participants with atopy, 16 of 27 (53.33%) participants underwent normal saline irrigation. Normal saline irrigation atopy group significantly improved rhinorrhea, nasal congestion, throat itching and sleep quality symptoms compared with non-irrigation atopy group. Normal saline irrigation atopy group significantly improved nPEFR values at final period (Z=2.53, P<0.05).

CONCLUSION: This study evidence that normal saline nasal irrigation improves Pediatric Rhinoconjunctivitis Quality of Life and decreases acute sinusitis symptoms. Nasal irrigation is an effective adjunctive treatment for pediatric acute sinusitis. Normal saline nasal irrigation in atopy children also improves allergic-related symptoms. We may need larger, longer and extended study to assess the conclusion.