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FONDAZIONE PER LA RICERCA SCIENTIFICA TERMALE

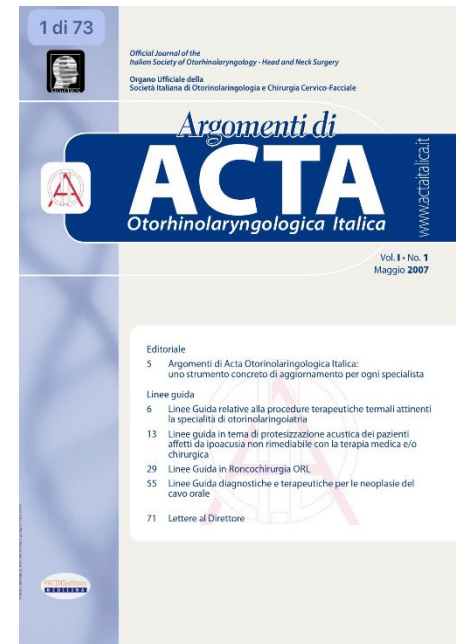
# Prevenzione e cura nelle patologie otorinolaringoiatriche

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# Indicazioni

- Rinosinusite Cronica
- Rino-otite Sindrome Rino-bronchiale
- Faringite Cronica
- Laringite Cronica



# Tecniche Inalatorie

## A) **Nebulizzazioni**

L'acqua minerale trasformata in una nebbia più o meno densa, è immessa in un ambiente nel quale i pazienti restano per tutta la durata dell'applicazione, o immessa in un apparecchio individuale a getto diretto.

## B) **Inalazioni**

L'acqua minerale è frantumata in particelle più o meno piccole.

## C) **Aerosol**

Gli apparecchi suddividono l'acqua minerale in particelle di dimensioni con diametro da 3 a 10 micron.

## D) **Humages o Emanazioni**

Utilizzano i gas delle acque minerali

## E) **Irrigazioni nasali e docce micronizzate**

L'acqua termale temperata si fa fluire, in corrente continua, nelle cavità nasali per una durata che varia a seconda delle necessità del paziente.

# CLASSIFICAZIONE GENERALE DELLE RINOPATIE

## RINOPATIE



## Effects of sulfurous, salty, bromic, iodic thermal water nasal irrigations in nonallergic chronic rhinosinusitis: a prospective, randomized, double-blind, clinical, and cytological study.

[Ottaviano G<sup>1</sup>](#), [Marioni G](#), [Staffieri C](#), [Giacomelli L](#), [Marchese-Ragona R](#), [Bertolin A](#), [Staffieri A](#).

### [Author information](#)

### Abstract

#### OBJECTIVES:

Nasal irrigations are mentioned among the adjunctive measures for treating several sinonasal conditions. Hyperchromatic supranuclear stria (HSS) in the ciliated cells (CCs) has recently been suggested as a potential cytological marker of the anatomofunctional integrity of nasal mucosa. The aim of this study was to compare the effects of nasal irrigations with sulfurous, salty, bromic, iodic (SSBI) thermal water or isotonic sodium chloride solution (ISCS) in patients with nonallergic chronic rhinosinusitis, considering the endoscopic, functional, microbiological, and cytological evidence (including the ratio of HSS-positive CCs to total CCs [the HSS+ rate]).

#### METHODS:

In a prospective, randomized, double-blind setting, 80 patients were recruited for nasal irrigations with SSBI water or ISCS for 1 month.

#### RESULTS:

An endoscopically assessed significant clinical improvement was seen after both SSBI thermal water and ISCS irrigations. Before treatment, *Staphylococcus aureus* was isolated in 5 patients in the SSBI thermal water group and 4 in the ISCS group. After the nasal irrigations, there was no sign of the bacteria in either group. Only the SSBI water irrigations significantly reduced total nasal resistance, as determined by rhinomanometry. Mild nasal irritation (6 cases) and episodes of extremely limited epistaxis (5 cases) were only reported after SSBI thermal water irrigations. Neither type of nasal irrigation significantly increased the mean HSS+ rate at cytological control after 1 month.

#### CONCLUSIONS:

Both types of nasal irrigation improved the endoscopic and microbiological features of patients with nonallergic chronic rhinosinusitis, whereas only SSBI irrigations significantly reduced total nasal resistance. Further investigations are needed based on longer treatments and follow-up periods to establish whether the HSS+ rate is useful for monitoring clinical improvements in chronic rhinosinusitis treated with nasal irrigations.

## [Efficacy of inhalation therapy with water of Salsomaggiore (Italy) in chronic and recurrent nasosinus inflammation treatment].

[Passali FM<sup>1</sup>](#), [Crisanti A](#), [Passali GC](#), [Cianfrone F](#), [Bocchi M](#), [Messineo G](#), [Bellussi L](#), [Passali D](#).

### [Author information](#)

### Abstract

#### OBJECTIVES:

Aim of the research was the demonstration of the efficacy of thermal water vs saline in the recurrent and chronic nasosinus inflammation treatment.

#### MATERIALS AND METHODS:

120 patients randomized into 2 groups of 60 subjects each, all affected by recurrent or chronic rhinosinusitis with/without I degree nasal polyposis. At the beginning and at the end of the study, in all the subjects the clinical history, objective examination and the instrumental analysis of nasal functions by active anterior rhinometry, acoustic rhinometry, nasal mucociliary transport time determination and nasal mucosa scraping were performed. Patients of the study group underwent crenotherapy treatment (vapour inhalation, aerosol and nasal douching) with thermal water for 14 days at Salsomaggiore Thermal baths. Other patients underwent nasal douching and aerosol with saline twice a day for 14 days at the Rhinologic Centre of the ENT Clinic of Siena University.

#### RESULTS:

At the end of the study, only the patients undergone to crenotherapy treatment with salt-bromine-iodic water showed a significant improvement of nasal obstruction, rinorrea and number of nocturnal arousals. The improvement, even if present, was not significant in the control group. Same positive variations were observed concerning nasal mucosa congestion, nasal secretion and mucociliary transport time reaching the significance in the study group.

#### CONCLUSIONS:

Crenotherapy with salt-bromine-iodic water should be considered as efficacious therapeutic tool in the management of chronic and recurrent rhinosinusitis.

## **Sulphurous thermal water inhalations in the treatment of chronic rhinosinusitis.**

[Salami A<sup>1</sup>](#), [Dellepiane M](#), [Strinati F](#), [Guastini L](#), [Mora R](#).

### **Author information**

### **Abstract**

#### **INTRODUCTION:**

The aim of this study was to evaluate the efficiency of sulphurous thermal water in the treatment of chronic rhinosinusitis (CRS).

#### **METHODS:**

Eighty patients with CRS were included and randomly assigned into two groups. Patients underwent a 12-day course of warm vapour inhalations and nasal irrigations with sulphurous thermal water in group A, and a physiological solution in group B.

#### **RESULTS:**

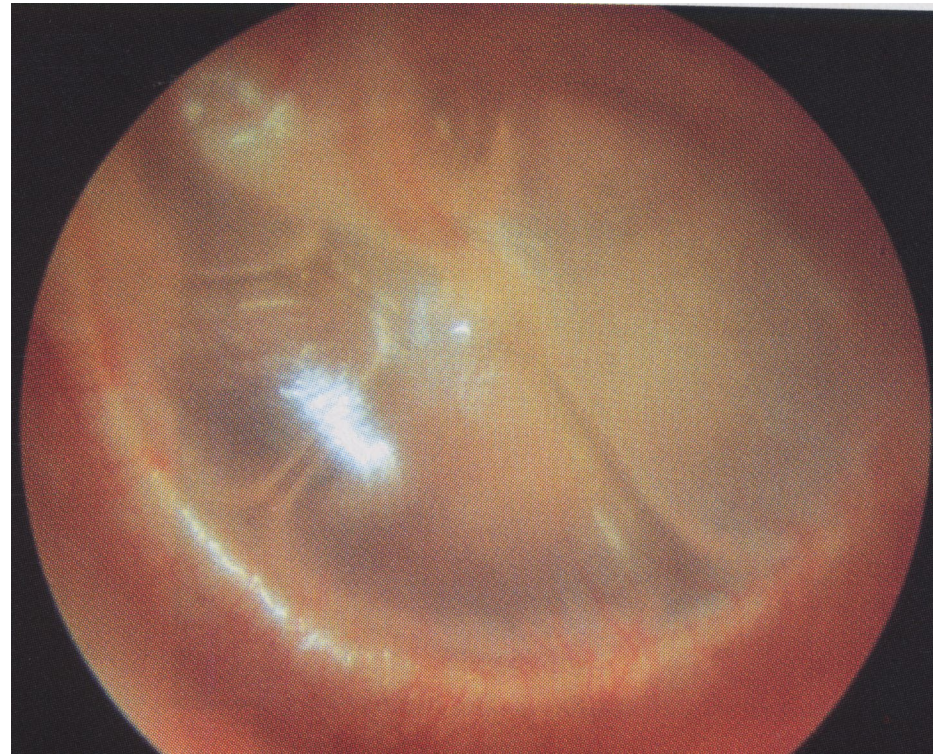
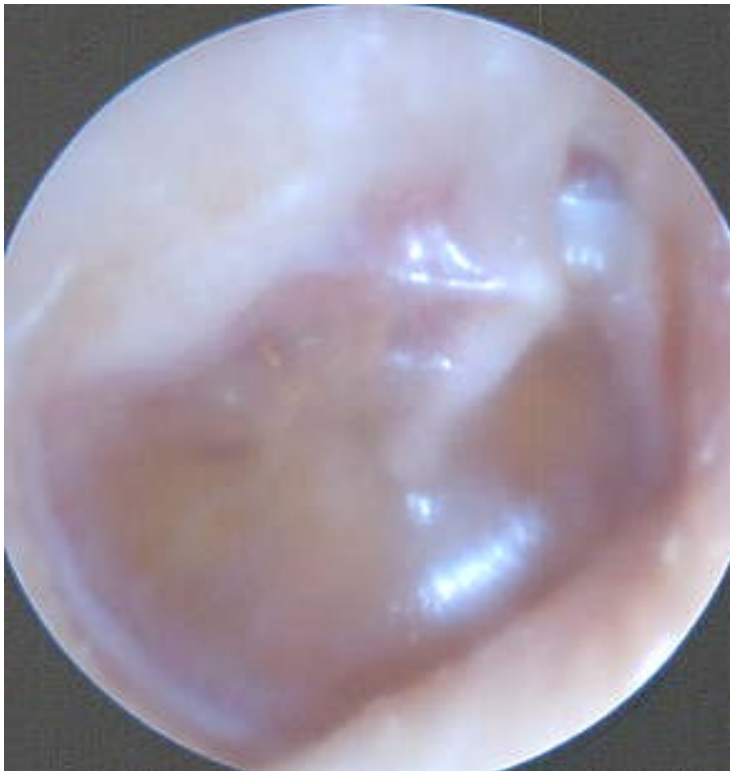
Compared with group B, in group A the results were as follows: serum concentration of IgE was significantly lower ( $p < 0.05$ ) 12 days ( $76.27 \pm 26.3$  mg/dl vs.  $97.44 \pm 45.4$ ) and 3 months after the beginning of the treatment ( $75.48 \pm 26.1$  mg/dl vs.  $98.37 \pm 41.4$ ); IgA titers were not significantly higher 12 days ( $231.09 \pm 120.3$  mg/dl vs.  $220.44 \pm 114.4$  mg/dl) and 3 months after the beginning of the treatment ( $235.44 \pm 118.5$  mg/dl vs.  $214.51 \pm 111.8$  mg/dl); VAS scores were significantly ( $p < 0.05$ ) improved at 12 days ( $1.7 \pm 0.18$  vs.  $6.9 \pm 0.51$ ) and 3 months after the start ( $1.8 \pm 0.22$  vs.  $7.1 \pm 0.59$ ); NMIT was normal at 12 days ( $11.54 \pm 1.59$  min vs.  $17.38 \pm 1.83$  min) and 3 months after the beginning of the treatment ( $11.46 \pm 2.07$  min vs.  $17.43 \pm 2.01$  min); total nasal resistances were significantly ( $p < 0.05$ ) decreased at 12 days and 3 months.

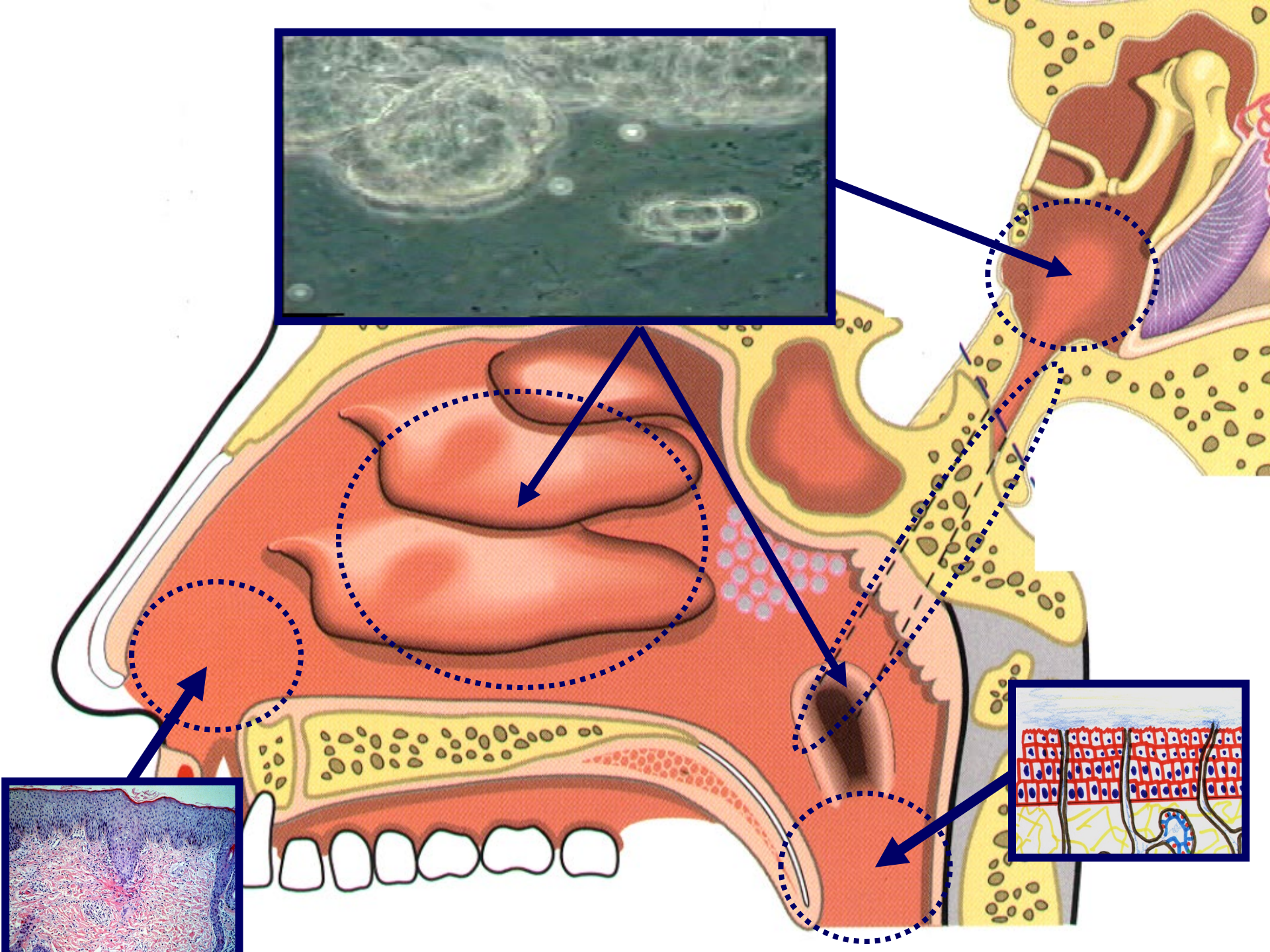
#### **CONCLUSION:**

Our results indicate the efficiency and applicability of sulphurous thermal water in the treatment of CRS.

# Otite Media Siero-Mucosa

- Presenza di un versamento effusivo dietro una membrana timpanica intatta senza segni e sintomi di infezione acuta

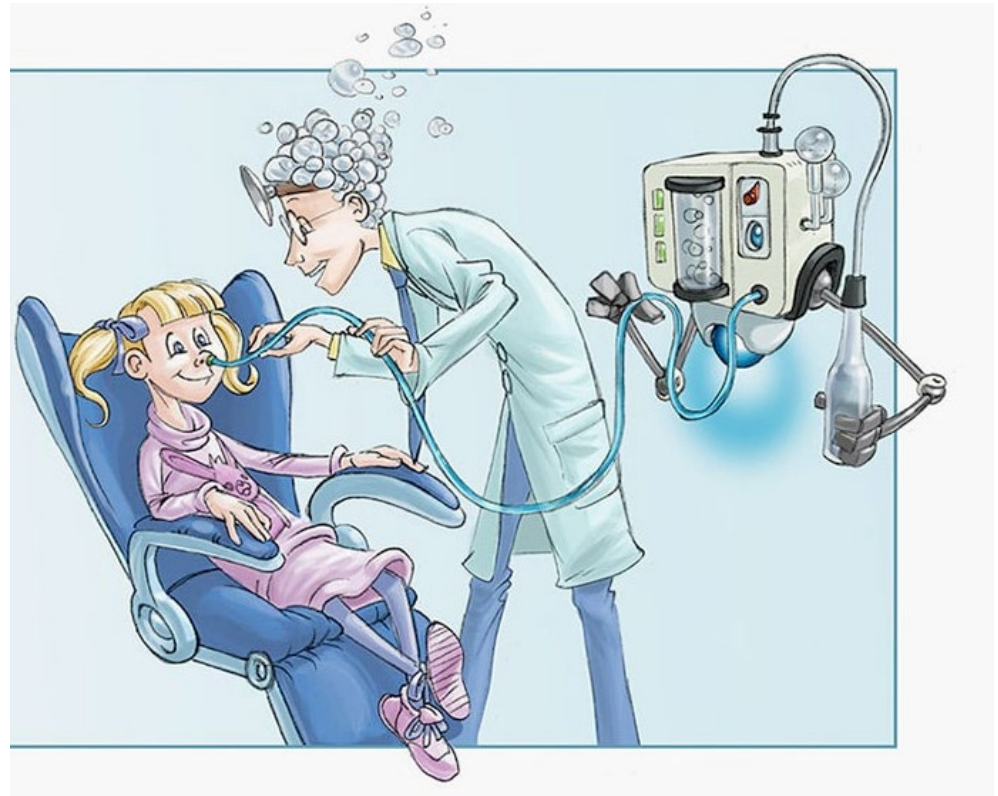






# Terapia Termale

- Politzer Crenoterapico
- Insufflazioni endotimpaniche



## **A comparative randomized study on the efficacy of a systemic steroid therapy vs. a thermal therapy in otitis media with effusion in children.**

[Califano L<sup>1</sup>](#), [Salafia F](#), [Mazzone S](#), [D'Ambrosio G](#), [Malafronte L](#), [Vassallo A](#).

### **Author information**

#### **Abstract**

#### **BACKGROUND:**

The aim of this study was to compare the effectiveness of a systemic steroid therapy vs. a thermal therapy based on sulphurous water insufflation. The therapy was performed in Telesse Terme Spa based on the Salimbani-Politzer technique on children suffering of otitis media with effusion (OME), using the variations of the tympanogram as objective outcome in a short time follow-up.

#### **METHODS:**

Eighty children suffering of monolateral or bilateral OME (44 male, 36 female, age 4-12 years, average age 7.2±2.83 ys.), enrolled in ENT or paediatrics offices, have been included in the study. Children were included in a randomization list in order to obtain two therapeutic groups, the first one to be treated through a systemic steroid therapy, the second one to be treated through sulphurous water insufflation in Telesse Spa. Children underwent otoscopic/otomicroscopic visit and tympanometry before the beginning of the therapy (T0), 7 days after the beginning of the therapy (T1), 7-10 days after the end of the therapy (T2), 30-35 days after the end of the therapy (T3). The variation of the type of tympanogram was considered the objective outcome. The shift either from a type B to a type C or to type A tympanogram and from a type C to a type A tympanogram was considered a positive outcome; the persistence either of the same type of tympanogram and the shift from a type C to a type B or from a type A to a type C or a type B were considered a negative outcome.

#### **RESULTS:**

Thermal therapy showed better outcomes at each time, with differences in improvement and healing often reaching the statistical significance. The most important prognostic indicator was the presence of an initial type B tympanogram, associated to a worst prognosis in both therapeutic groups and in each subgroup of OME.

#### **CONCLUSIONS:**

Sulphurous water insufflation therapy appeared a good therapeutic choice in the treatment of OME in a pediatric population.

## **Impact of sulphurous water politzer inhalation on audiometric parameters in children with otitis media with effusion.**

[Mirandola P<sup>1</sup>](#), [Gobbi G](#), [Malinverno C](#), [Carubbi C](#), [Ferné FM](#), [Artico M](#), [Vitale M](#), [Vaccarezza M](#)

### **Abstract**

#### **OBJECTIVES:**

The positive effects of spa therapy on ear, nose, and throat pathology are known but robust literature in this field, is still lacking. The aim of this study was to assess through a retrospective analysis, the effects on otitis media with effusion of Politzer endotympanic inhalation of sulphurous waters in children aged 5-9 years.

#### **METHODS:**

A cohort of 95 patients was treated with Politzer insufflations of sulphurous water: 58 patients did a cycle consisting of a treatment of 12 days per year for three consecutive years; 37 patients followed the same procedure for 5 years consecutively. The control population was represented by untreated, age-matched children. A standard audiometric test was used before and after each cycle of treatment.

#### **RESULTS:**

One cycle of Politzer inhalation of sulphur-rich water improved the symptoms. Three cycles definitively stabilized the improvement of hearing function.

#### **CONCLUSION:**

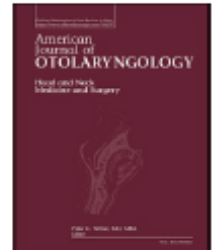
Our results show that otitis media with effusion in children can be resolved by an appropriate non-pharmacological treatment of middle ear with sulphur-rich water



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

## American Journal of Otolaryngology–Head and Neck Medicine and Surgery

journal homepage: [www.elsevier.com/locate/amjoto](http://www.elsevier.com/locate/amjoto)



### Eustachian tube insufflation with thermal water: Effectiveness in the treatment of pediatric otitis media with effusion

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# Faringolaringite


- Flogosi della mucosa faringea di origine infettiva, chimica o fisica
- Inalazioni a vapore, nebulizzazioni, irrigazioni o docce micronizzate
  - Acque sulfuree per forme ipertrofiche
  - Acque salsobromoiodiche per forme atrofiche

RESEARCH

Open Access



# Gene and protein expression of *CXCR4* in adult and elderly patients with chronic rhinitis, pharyngitis or sinusitis undergoing thermal water nasal inhalations

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