

Attualità nella terapia della rinite allergica

P. Marchisio, Milano

34

Congresso Nazionale di
**ANTIBIOTICOTERAPIA
in età pediatrica**

Milano, 11 - 12 - 13 novembre 2015 | Centro Congressi AtaHotel Executive

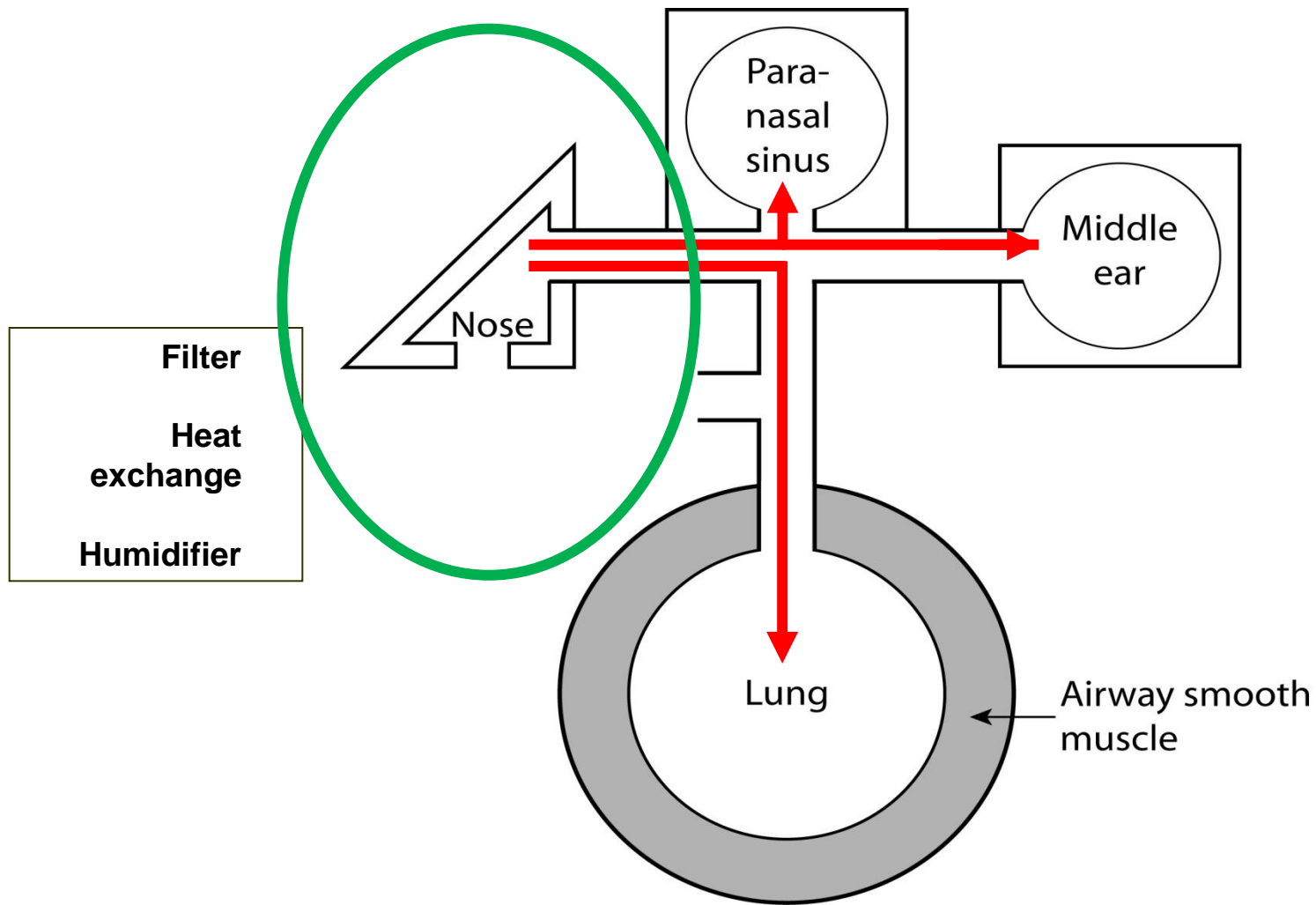
Presidenti: **Prof. Nicola Principi - Prof.ssa Susanna Esposito**

Attualità in tema di rinite allergica

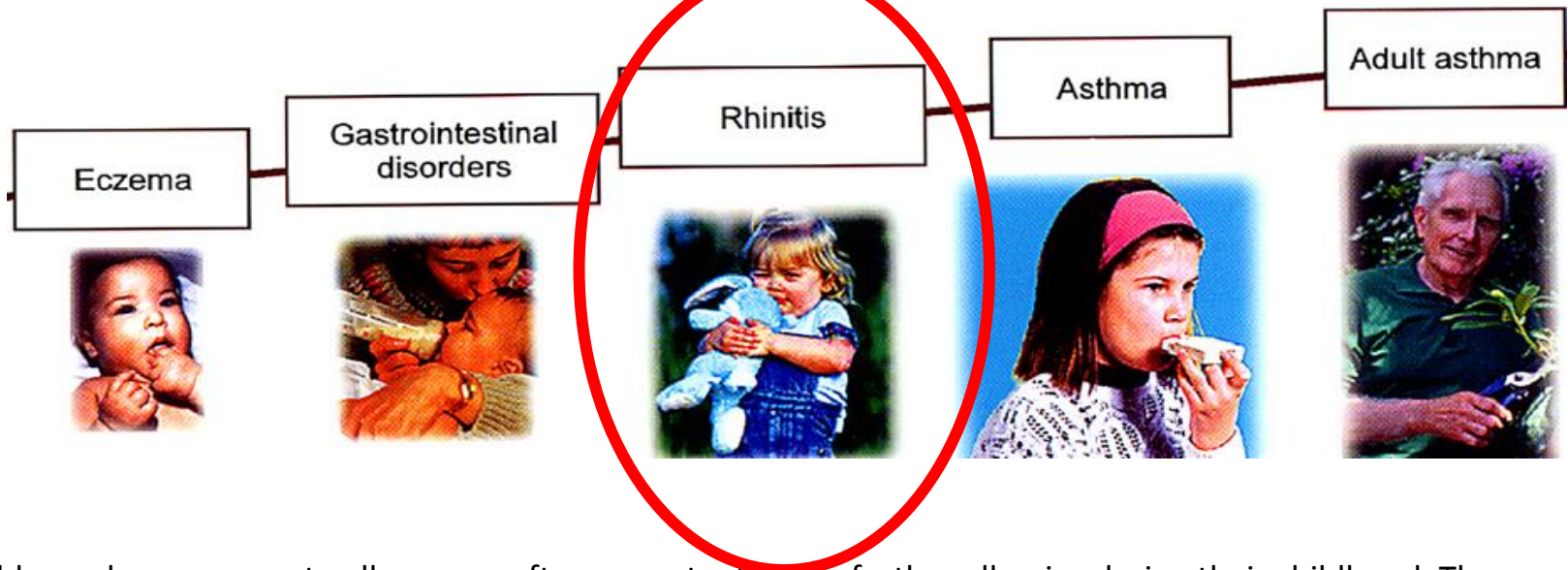
Paola Marchisio

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Università degli Studi di Milano
Fondazione IRCCS Cà Granda Ospedale
Maggiore Policlinico
Milano

The United Airway



The Allergic March



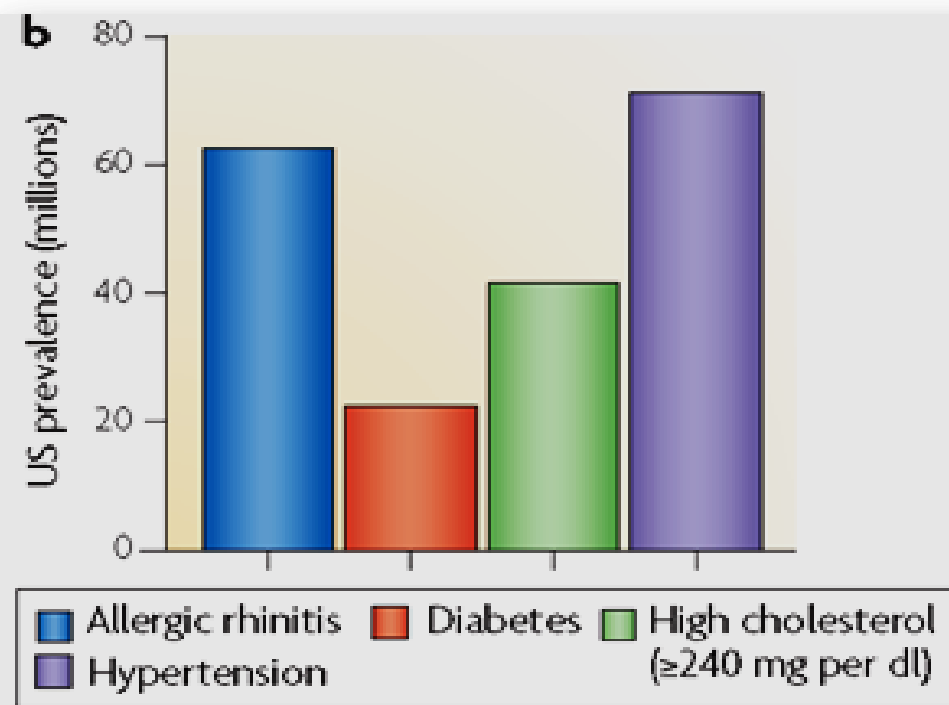
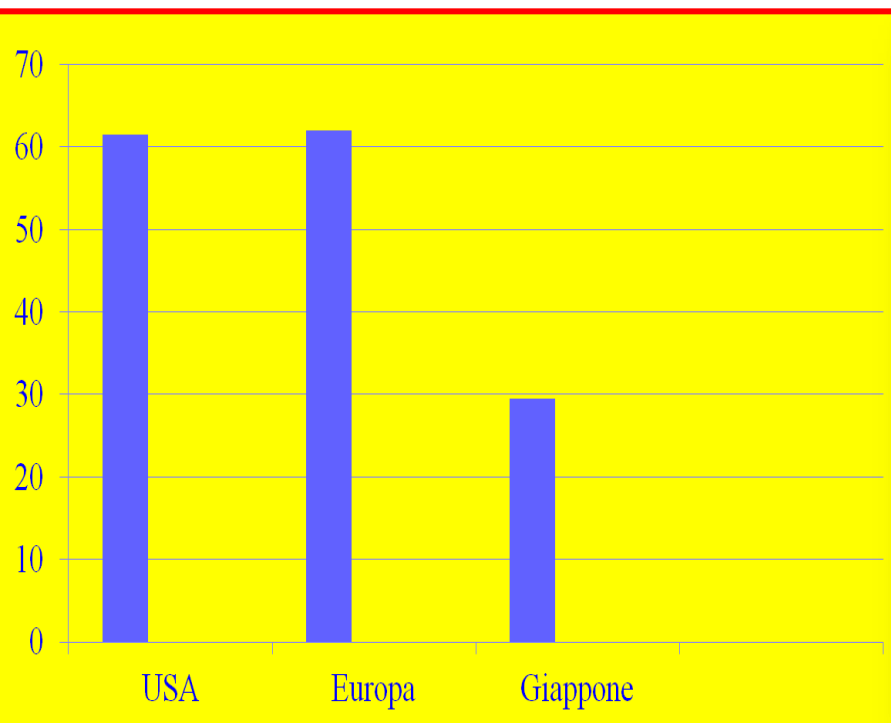
- Children who are prone to allergy can often go on to develop further allergies during their childhood. These may overlap so that they suffer from more than one at a time, or one allergy may subside as another starts.
- Allergies and their symptoms often appear in a particular sequence during their childhood, and this progression of the symptoms and allergic disease is known as the 'allergic march'.
- In this 'march', children often develop one set of allergies and symptoms in an order related to their age and development.
- **The word 'march' suggests that children pass through each of these stages.** However, sometimes a child will take the allergies and symptoms from one stage with them, as they grow older and develop other allergies and symptoms. In this way, allergies and atopic diseases can overlap.

Le ragioni per parlare della rinite allergica

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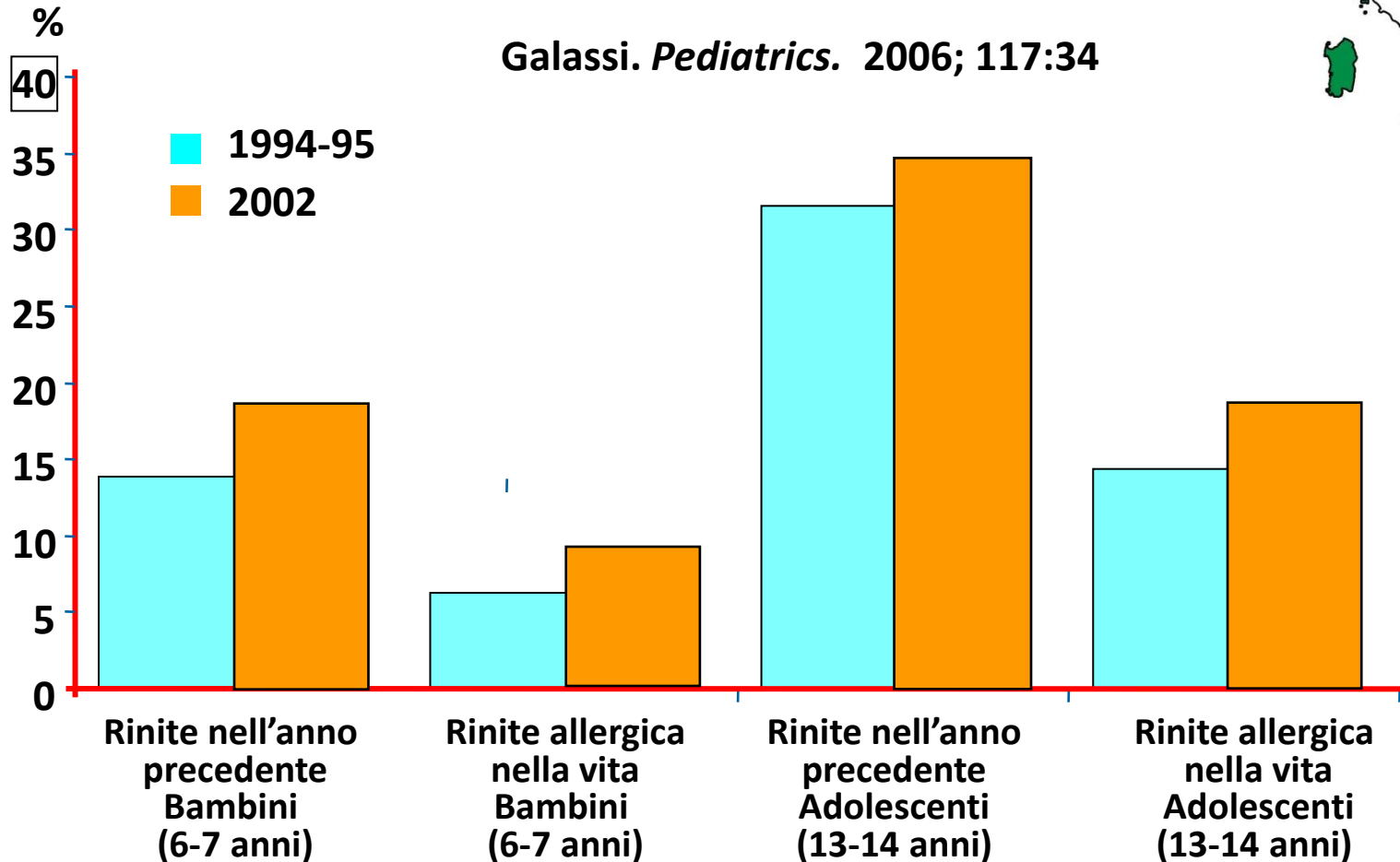
- La rinite allergica è un problema sanitario globale che colpisce dal **5 al 35 %** della popolazione.
- La sua **prevalenza** è tendenzialmente **in aumento**.
- Pur non essendo sempre una malattia grave, la rinite **influisce sulla vita sociale ed altera le prestazioni scolastiche e lavorative**.
- I **costi** socio sanitari sono **rilevanti**.
- **La rinite si associa spesso all'asma** e costituisce fattore di rischio per la sua insorgenza. Oltre all'asma possono associarsi alla rinite numerose **altre co-morbilità**.
- La divulgazione e l'applicazione delle linee guida sono in grado di migliorare la gestione dei pazienti.

La prevalenza stimata (milioni di pazienti) della rinite allergica negli Stati Uniti, Europa e Giappone e confronto con altre malattie.



Epidemiology of Allergic Rhinitis in Italian children and adolescents

in Italia almeno **un milione e mezzo** di ragazzi con allergie nasali e pollinosi.



Paediatric rhinitis: position paper of the European Academy of Allergy and Clinical Immunology

G. Roberts^{1,2}, M. Xatzipsalti³, L. M. Borrego^{4,5}, A. Custovic⁶, S. Halcken⁷, P. W. Hellings⁸,
N. G. Papadopoulos⁹, G. Rotiroli^{10,11}, G. Scadding¹⁰, F. Timmermans¹² & E. Valovirta¹³

¹David Hide Asthma and Allergy Research Centre, St Mary's Hospital, Isle of Wight; ²NIHR Respiratory Biomedical Research Unit, University Hospital Southampton NHS Foundation Trust and University of Southampton Faculty of Medicine, Southampton, UK; ³First Department of Pediatrics, P. & A. Kyriakou Children's Hospital, Athens, Greece; ⁴Faculty of Medical Sciences, Department of Immunology, NOVA, CEDOC, New University of Lisbon, Lisbon; ⁵Immunoallergy Department, CUF Descobertas Hospital, Lisbon, Portugal; ⁶Manchester Academic Health Science Centre, NIHR Respiratory and Allergy Clinical Research Facility, The University of Manchester, University Hospital of South Manchester NHS Foundation Trust, Manchester, UK; ⁷Hans Christian Andersen Children's Hospital, Odense University Hospital, Odense, Denmark; ⁸Department of Otorhinolaryngology, Head and Neck Surgery, University Hospitals of Leuven, Catholic University of Leuven, Leuven, Belgium; ⁹Allergy Department, 2nd Pediatric Clinic, University of Athens, Athens, Greece; ¹⁰Royal National Throat Nose and Ear, Hospital – Part of UCL Hospitals NHS Foundation Trust, London; ¹¹Royal Free Hospital NHS Foundation Trust, London, UK; ¹²Nederlands Anafylaxis Netwerk, Dordrecht, the Netherlands; ¹³Terveystalo Turku, Allergy Clinic, University of Turku, Turku, Finland

Allergy 2013; 68: 1102–1116.

Classification of rhinitis causation in children

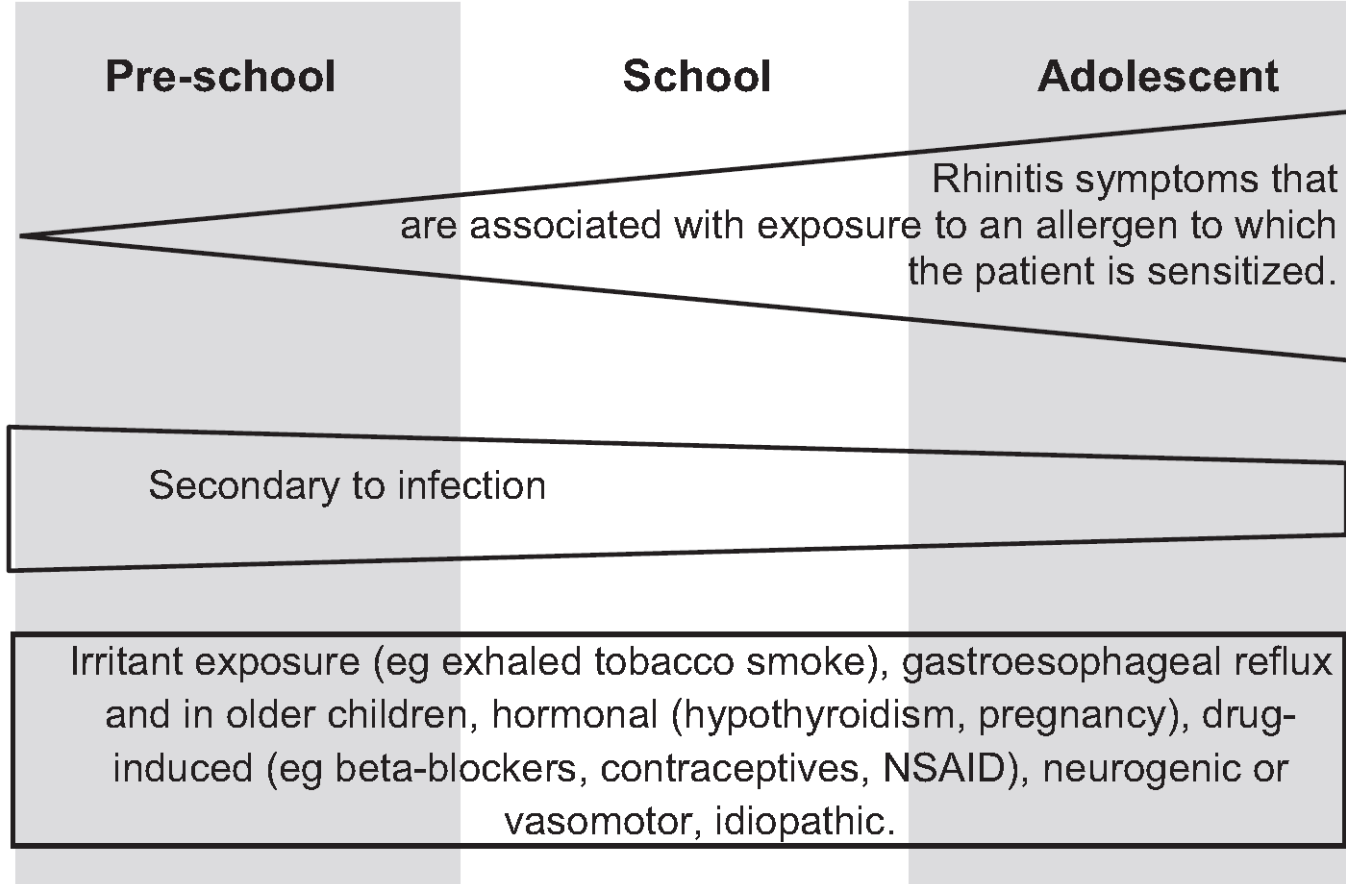


Figure 1 Paediatric rhinitis taskforce logo.

Allergic rhinitis

Infectious rhinitis

Non-allergic, non-infectious rhinitis



Different pathophysiologies may co-exist, particularly allergic rhinitis and infectious rhinitis.

Classificazione ARIA (2015) della rinite allergica

Intermittente

- . < 4 giorni/settimana
- . o < 4 settimane

Persistente

- . > 4 giorni/settimana
- . e > 4 settimane

Lieve

Tutte le seguenti

- Sonno conservato
- Nessuna limitazione nelle attività quotidiane
- Normale attività lavorativa o scolastica
- Non sintomi fastidiosi

Moderata-grave

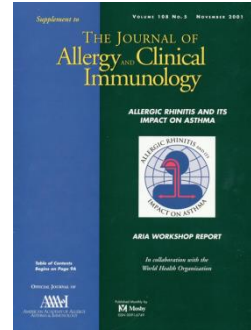
uno o più dei seguenti

- . **Alterazioni del sonno**
- . **Limitazioni delle attività quotidiane**
- . **Riduzione prestazioni lavorative/scolastiche**
- . **Sintomi gravi**

Nei pazienti non trattati

RINITE ALLERGICA - 2015

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Patologia della mucosa nasale indotta da un' infiammazione IgE-mediata conseguente all'esposizione allergenica.

E' caratterizzata clinicamente da

- 1. Rinorrea (anter. e poster.!),**
- 2. starnuti,**
- 3. prurito,**
- 4. ostruzione,**

reversibili spontaneamente o in seguito a terapia.



Sintomi tipici e non tipici di rinite allergica



Figure 1 Paediatric rhinitis task force logo.

SINTOMI TIPICI DI RINITE ALLERGICA

- rinorrea acquosa
- starnuti a salve
- ostruzione nasale
- prurito nasale
- congiuntivite concomitante

SINTOMI NON TIPICI

- sintomi unilaterali
- ostruzione nasale isolata
- rinorrea mucopurulenta
- rinorrea posteriore isolata
- dolore, anosmia
- epistassi ricorrenti

Classic symptoms and signs of rhinitis

Potential atypical presentations

	Pre-school	School	Adolescent
Classic symptoms and signs of rhinitis	<p>Rhinorrhoea – clear or discoloured discharge, sniffing</p> <p>Pruritus - nose rubbing, the “allergic salute”, “allergic crease”, “sneeze”, may be associated with complaints of an itchy mouth or throat in older children</p> <p>Congestion - mouth breathing, snoring, sleep apnoea, allergic shiners</p>		
	<p>Eustachian tube dysfunction - ear pain on pressure changes (eg flying), reduced hearing, chronic otitis media with effusion</p>		
Potential atypical presentations	<p>Cough – often mislabelled as asthma</p> <p>Poorly controlled asthma – may co-exist with asthma</p> <p>Sleep problems - tired, poor school performance, irritability</p> <p>Prolonged and frequent respiratory tract infections</p>		
	<p>Rhinosinusitis - catarrh, headache, facial pain, halitosis, cough, hyposmia</p>		
	<p>Pollen-food syndrome, particularly with pollen driven allergic rhinitis</p>		
	<p>←</p>		

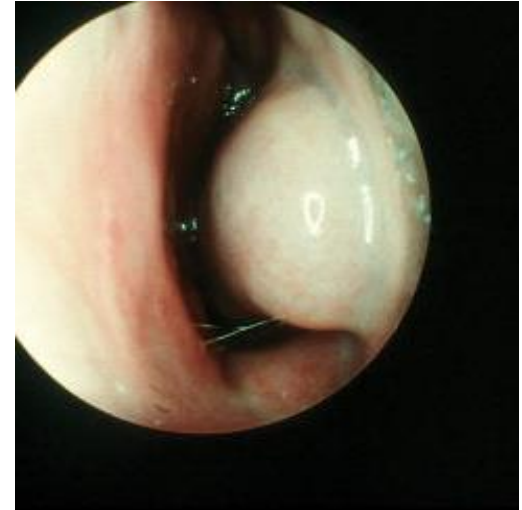
Nasal Endoscopy in Children with Suspected Allergic Rhinitis

Franco Ameli, MD; Fabio Brocchetti, MD; Maria Angela Tosca, MD; Alessio Signori, BS; Giorgio Ciprandi, MD

Results of Univariate Logistic Regression.

Covariates	OR (95% CI)	P
Age (1-year increment)	1.10 (0.96-1.27)	NS
Gender (male vs. female)	1.58 (0.75-3.36)	NS
Inferior turbinate contact (yes vs. no)	5.15 (1.78-14.97)	.003
Pale turbinates (yes vs. no)	1.08 (0.50-2.30)	NS
Middle turbinate contact (yes vs. no)	3.32 (1.51-7.27)	.003

OR = odds ratio; CI = confidence interval; NS = $P > .05$.



Results of Multivariate Logistic Regression.

Covariates	OR (95% CI)	P
Inferior turbinate contact (yes vs. no)	5.38 (1.77-16.36)	.003
Middle turbinate contact (yes vs. no)	3.42 (1.51-7.73)	.003

OR = odds ratio; CI = confidence interval.

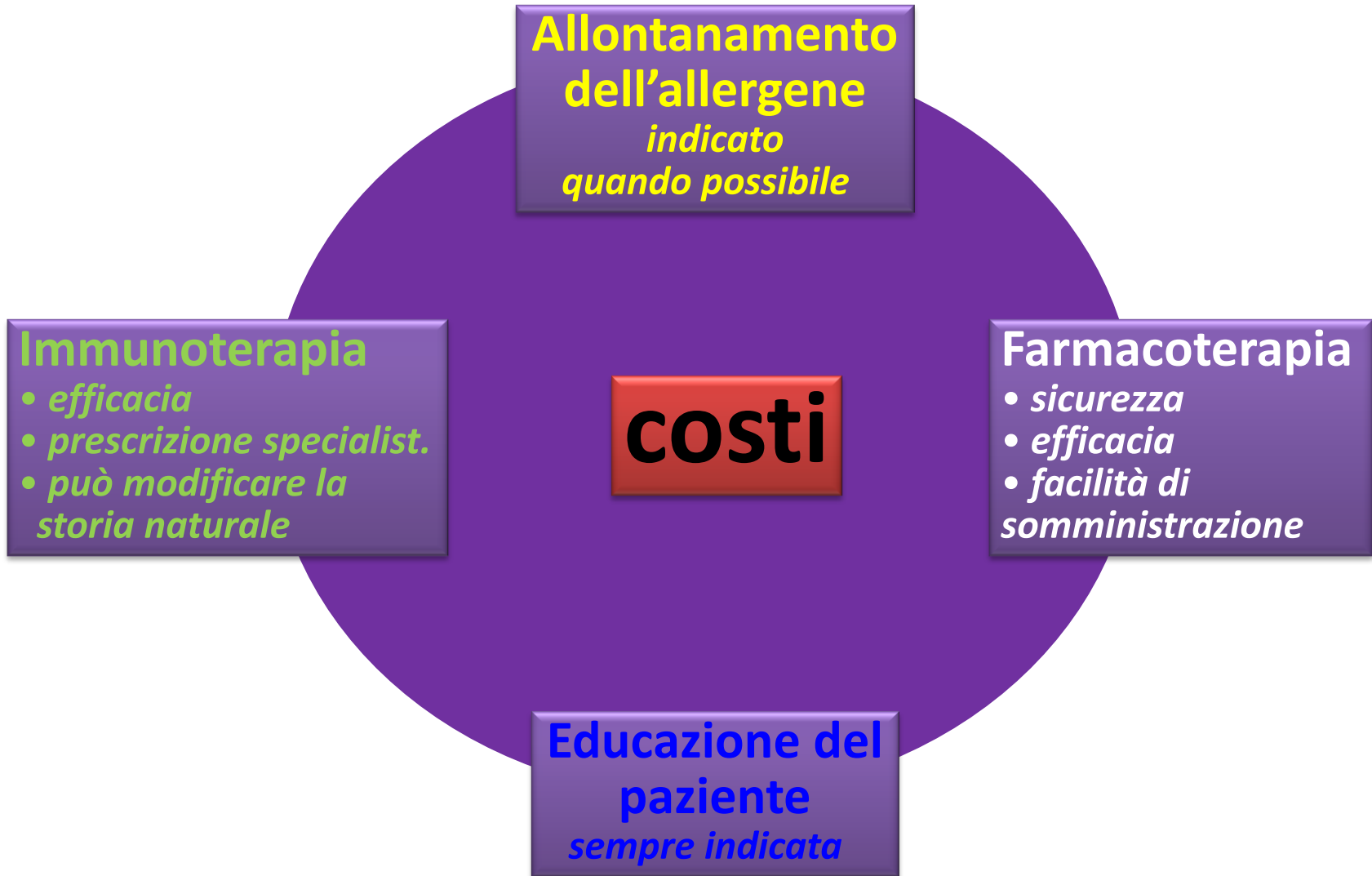
Differential diagnosis of rhinitis in children



Diagnosis	Pre-school	School	Adolescent
Choanal atresia or stenosis	Obstruction without other features of allergic rhinitis		
Immuno-deficiency	Persisting mucopurulent discharge		
Encephalocoele	Unilateral nasal "polyp"		
Adenoidal hypertrophy	Mouth breathing, discoloured nasal secretions, snoring in the absence of other features of allergic rhinitis		
Foreign body	Unilateral discoloured nasal secretions, foul smell		
Rhinosinusitis	Discoloured nasal secretions, headache, facial pain, poor smell, halitosis, cough		
Cystic fibrosis	Bilateral nasal polyps, poor smell, chest symptoms, symptoms of malabsorption, failure to thrive		
Primary ciliary dyskinesia	Persisting mucopurulent discharge without respite between "colds", bilateral stasis of mucus and secretions at the nasal floor, symptoms from birth		
CSF leakage	Colourless nasal discharge often with a history of trauma		
Coagulopathy	Recurrent epistaxis with minimal trauma		
Septal deviation	Obstruction in the absence of other features of allergic rhinitis		

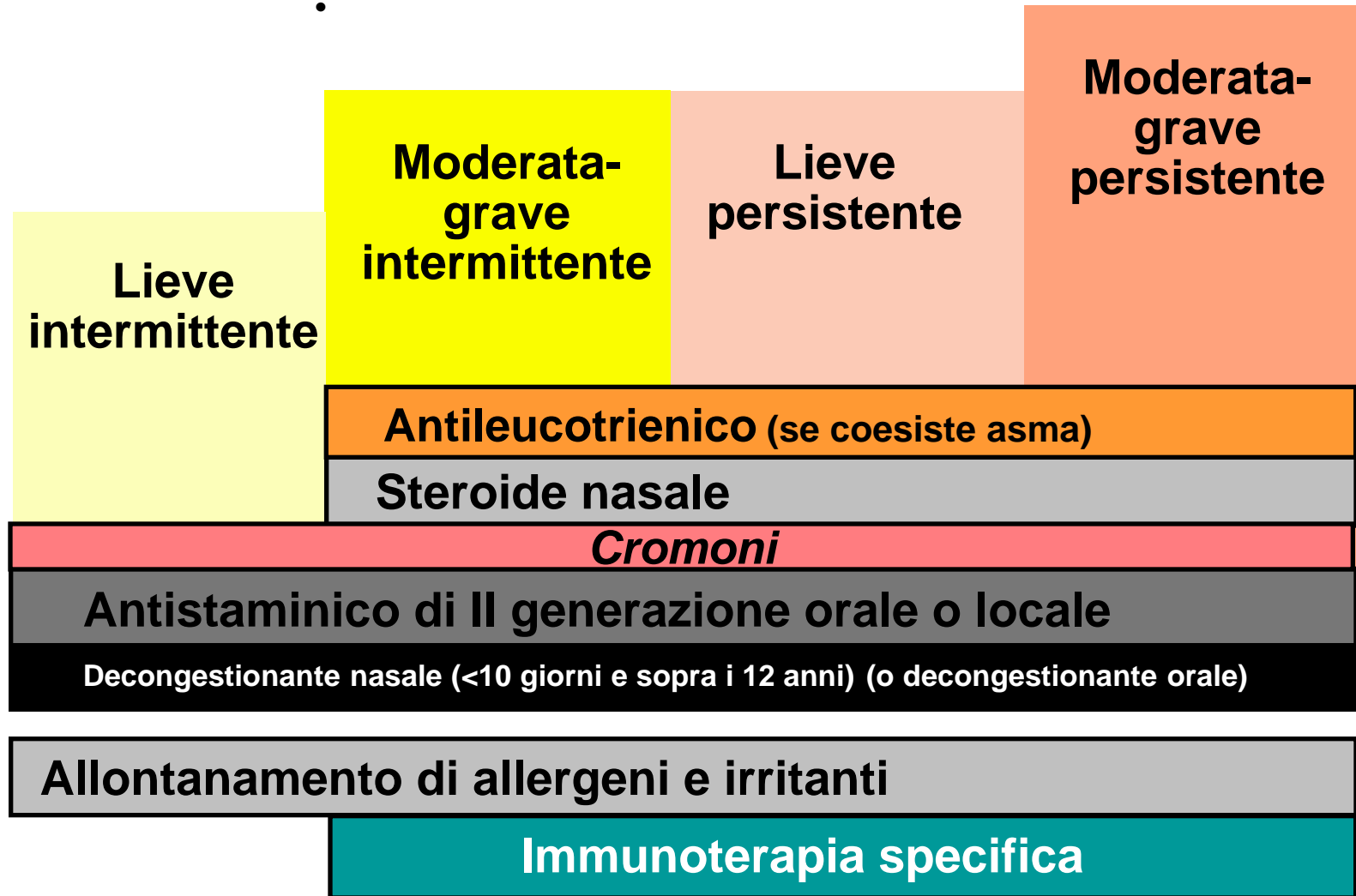
I 4 cardini dell'approccio terapeutico

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Trattamento stepwise della rinite allergica

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Clinical Practice Guideline: Allergic Rhinitis



Table 8. Environmental Control Measures to Reduce Allergen Levels and Symptoms.

Environmental Control Measure	Evidence Supports Reduction in Allergen Level		Evidence Supports Reduction in Symptoms	
	Yes	No	Yes	No
Removal of pets	X		X	
Washing pets twice a week	X			X
Acaricides to kill dust mites	X		X	
Impermeable covers for bedding	X			X
Air filtration	X			X
Combined use of multiple control measures	X		X	

Terapia farmacologica

RACCOMANDAZIONI GENERALI

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- Gli **antistaminici orali o topici di II generazione** sono raccomandati per il trattamento della rinite e della congiuntivite in adulti e bambini.
- Gli **steroidi nasali** sono raccomandati per il trattamento della rinite allergica in adulti e bambini; sono i farmaci più efficaci nella rinite allergica.

ARIA, Allergy 2008

TRATTAMENTI FARMACOLOGICI

Gli **antistaminici di II generazione** sono efficaci su **rinorrea**, **starnuti** e **prurito**. Alcuni di essi possiedono attività antinfiammatorie e agiscono in parte anche sull'ostruzione.

Jen, Ann Allergy Asthma Immunol 2000; Denkewicz, JACI 2003

I **corticosteroidi nasali** sono **efficaci sull'ostruzione**. Il massimo effetto richiede 24-48 ore, ma possono agire sui sintomi già a partire dalle 12 ore circa.

Nayak, Allergy 2001; Wilson, Allergy 2002; Simons, JACI 2003; Potter, Allergy 2003; Hore, Clin Exp Allergy 2005

I **decongestionanti topici** possono essere usati (**sopra i 12 anni**), solo per **brevi periodi**, se l'ostruzione nasale è molto severa.

I più recenti **corticosteroidi nasali** (mometasone furoato e fluticasone furoato) hanno mostrato di poter migliorare anche gli **eventuali sintomi oculari** concomitanti.

Kaiser et al. JACI 2007;119; Bielory Ann Allergy 2008..

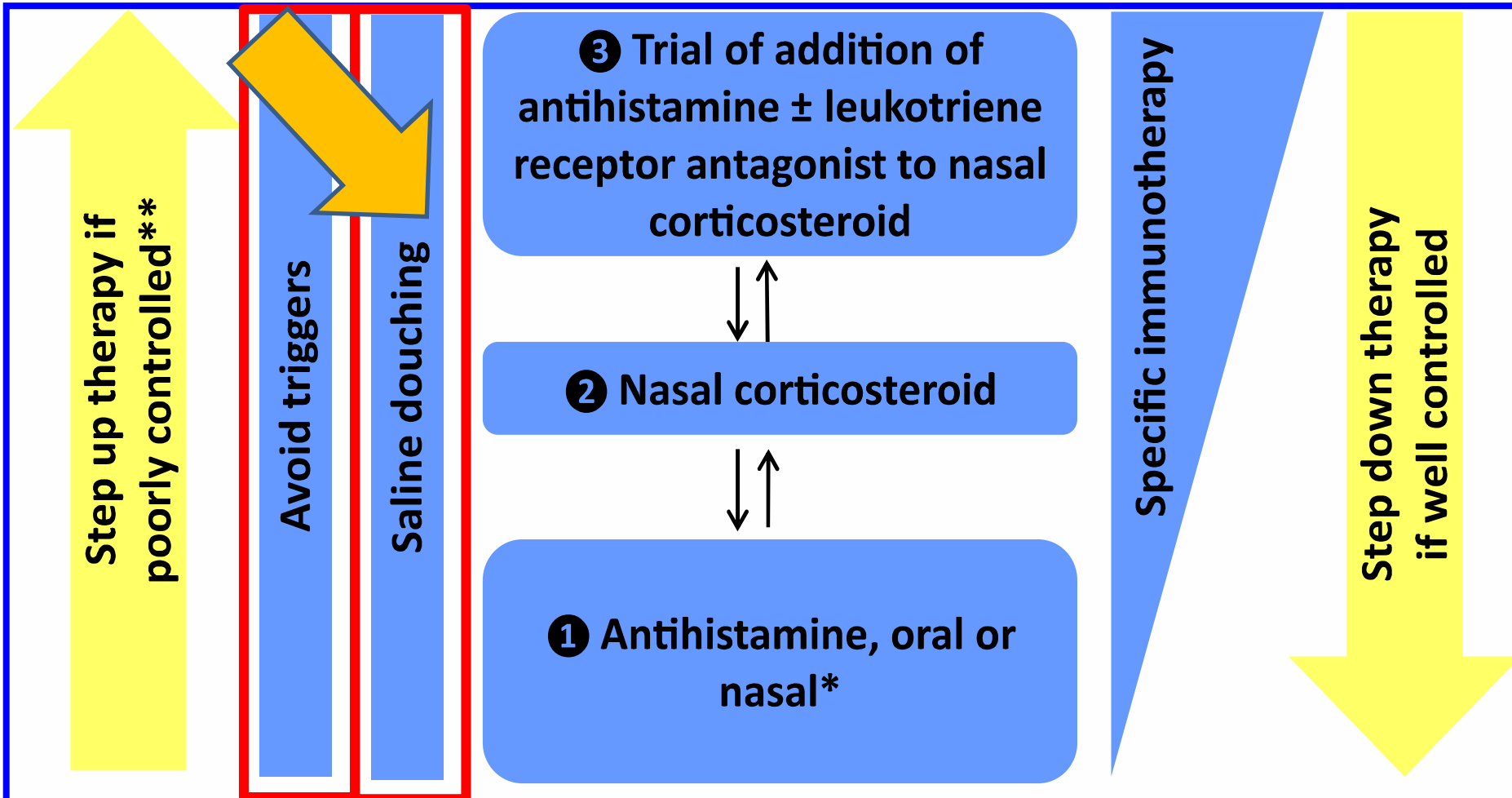
1° step : Antistaminici orali di seconda generazione possono essere utilizzati dal 2° anno di vita;

Antistaminici spray nasali possono essere utilizzati dal 12° anno di vita

2° step : Steroidi nasali possono essere utilizzati dal 6° anno di vita (registrazione italiana);

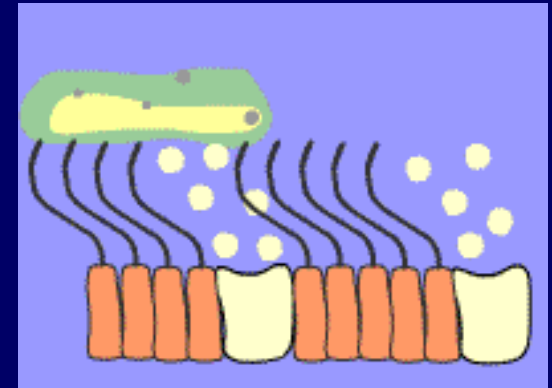
questa position paper suggerisce che dovrebbero essere utilizzati dopo i 2 anni di vita.

3° step : Antileucotrienici possono essere utilizzati specialmente in caso di asma associato in abbinamento a Anti-H1 e Cs Inalatori



L'allontanamento del/dei fattori scatenanti ed il lavaggio nasale in questa position paper vengono inseriti e consigliati come **trattamento coadiuvante** di tutti i 3 steps della terapia farmacologica

VANTAGGI DEL LAVAGGIO NASALE



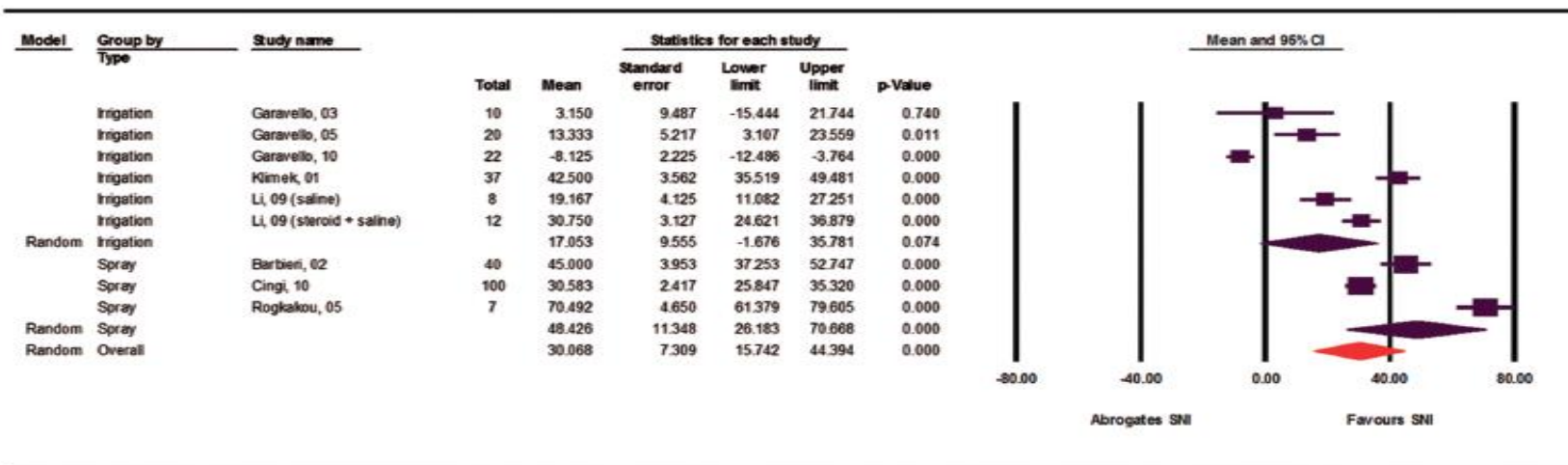
- RIMOZIONE DELLE SECREZIONI
- MIGLIORAMENTO DELLA FUNZIONE MUCOCILIARE
- RIDUZIONE DELL'EDEMA DELLA MUCOSA
- RIDUZIONE DELLA LIBERAZIONE DI MEDIATORI DELL'INFIAMMAZIONE

LAVAGGIO NASALE

Am J Rhinol
Allergy 2012

Nasal irrigation as an adjunctive treatment in allergic rhinitis: A systematic review and meta-analysis

Kristina E. Hermelingmeier, M.D.,² Rainer K. Weber, Ph.D.,¹ Martin Hellmich, Ph.D.,²
Christine P. Heubach, M.D.,² and Ralph Mösges, Ph.D.²



3.4.4.3. Nasal or antral irrigation

The results between the groups were compared. Most of them offer evidence that nasal washouts or irrigations with isotonic or hypertonic saline are beneficial in terms of alleviation of symptoms. Hypertonic saline is preferred to isotonic saline in the treatment of rhinosinusitis by some authors in the USA, mostly based on a paper indicating that it significantly improves nasal mucociliary clearance measured by saccharine testing in healthy volunteers ⁽³²⁹⁾.

European
Position Paper
on
Rhinosinusitis
and
Nasal Polyps
2012

ERS / EAACI guidelines for acute and chronic rhinosinusitis with and without nasal polyps based on systematic review

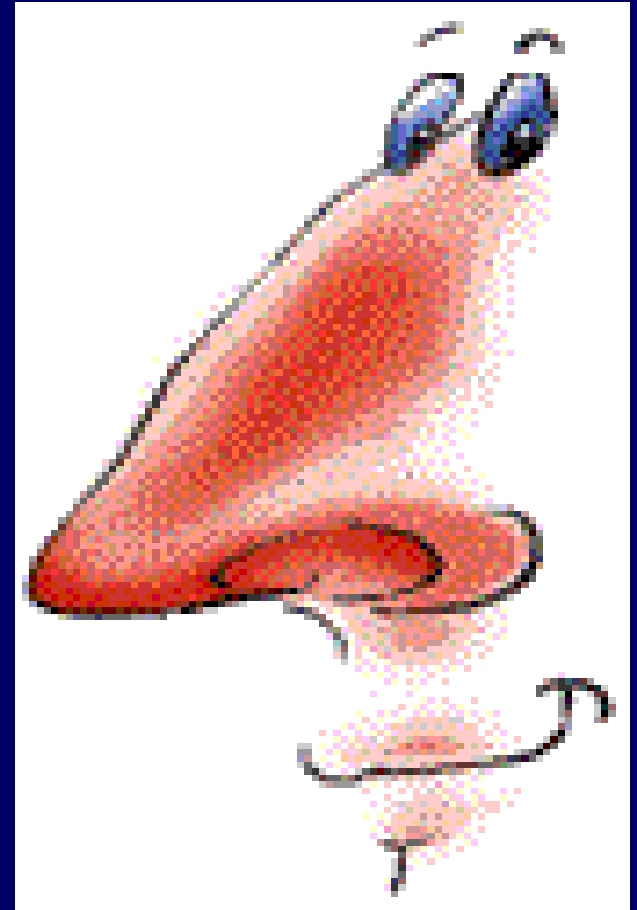
Optimal management of allergic rhinitis

Glenis K Scadding

Saline douching: This reduces symptoms of AR and improves the effect of intranasal steroids (INS)⁴⁶ and is effective in rhinosinusitis, where douching is guideline-recommended. Isotonic solutions are well tolerated, inexpensive, easy to use, with no evidence showing that regular, daily use adversely affects health.

Nasal irrigation

Hypertonic or
isotonic?



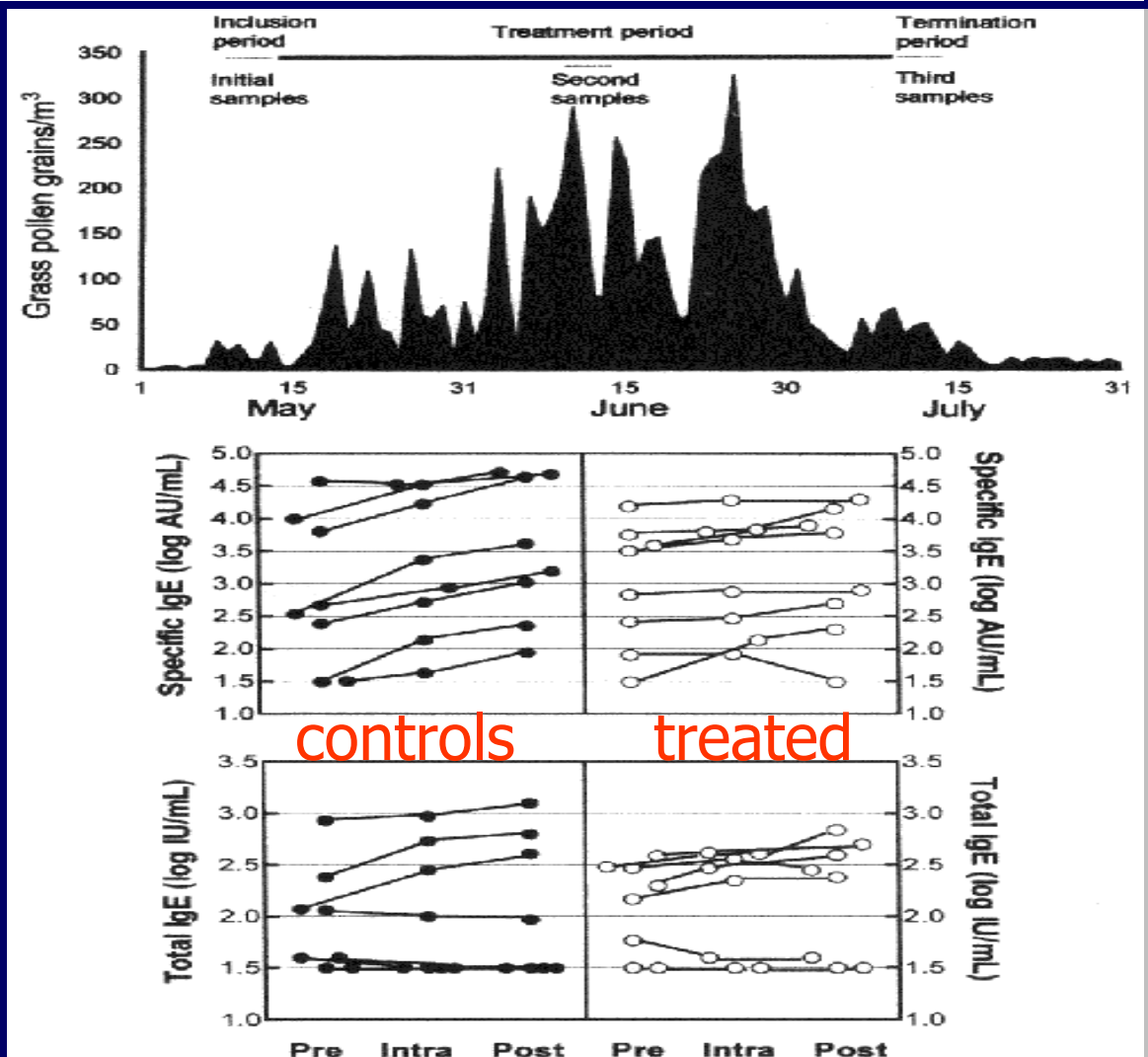
Inhibition of the seasonal IgE increase to *Dactylis glomerata* by daily sodium chloride nasal-sinus irrigation during the grass pollen season

José L. Subiza, MD, PhD,^a Javier Subiza, MD,^b María C. Barjau, MD,^b Rosa Rodríguez, PhD,^c and María J. Gavilan, MD^b *Madrid, Spain*

16 pts (19 -37 yrs)
with a diagnosis of
grass allergy and
rhinitis

8 treated with
sodium chloride
irrigations (isotonic
pH 8.1) 3 time a day
(with a WaterPik
with a nasal adapter)
for 8 weeks

8 controls
Subiza et al
JACI 1999;104:711-2



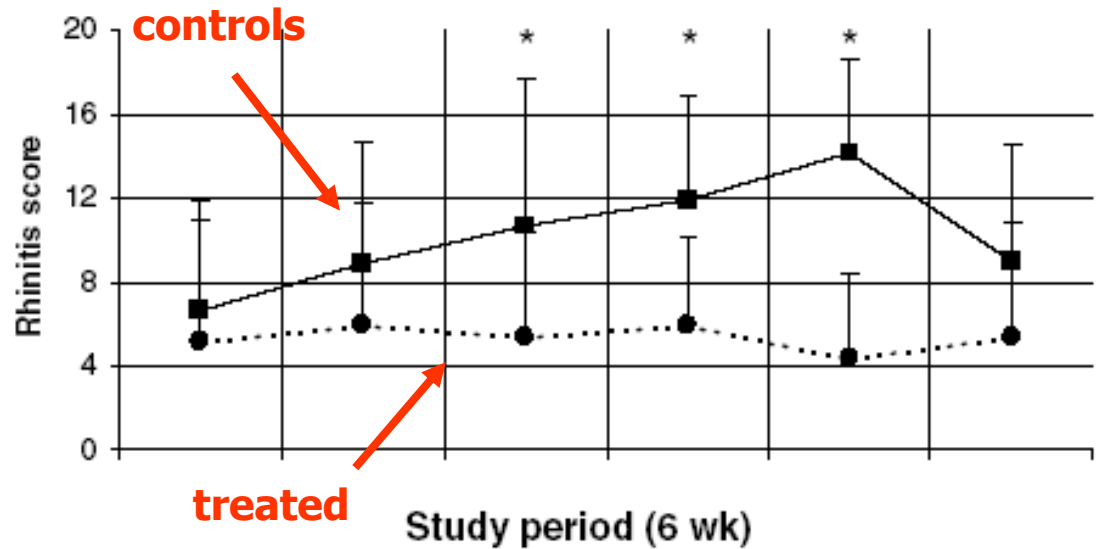
Hypersaline nasal irrigation in children with symptomatic seasonal allergic rhinitis: A randomized study

Garavello W, Romagnoli M, Sordo L, Gaini RM, Di Bernardino C, Angrisano A. Hypersaline nasal irrigation in children with symptomatic seasonal allergic rhinitis: A randomized study. *Pediatr Allergy Immunol* 2003; 14: 140–143. © 2003 Blackwell Munksgaard

20 children (6 – 12 yrs)
allergic rhinitis to
Parietaria

10 children treated with
nasal irrigation with
hypertonic (3%) saline
(2,5 ml/nostril) during
pollen season, for 6
weeks

10 controls



* $p < 0.05$

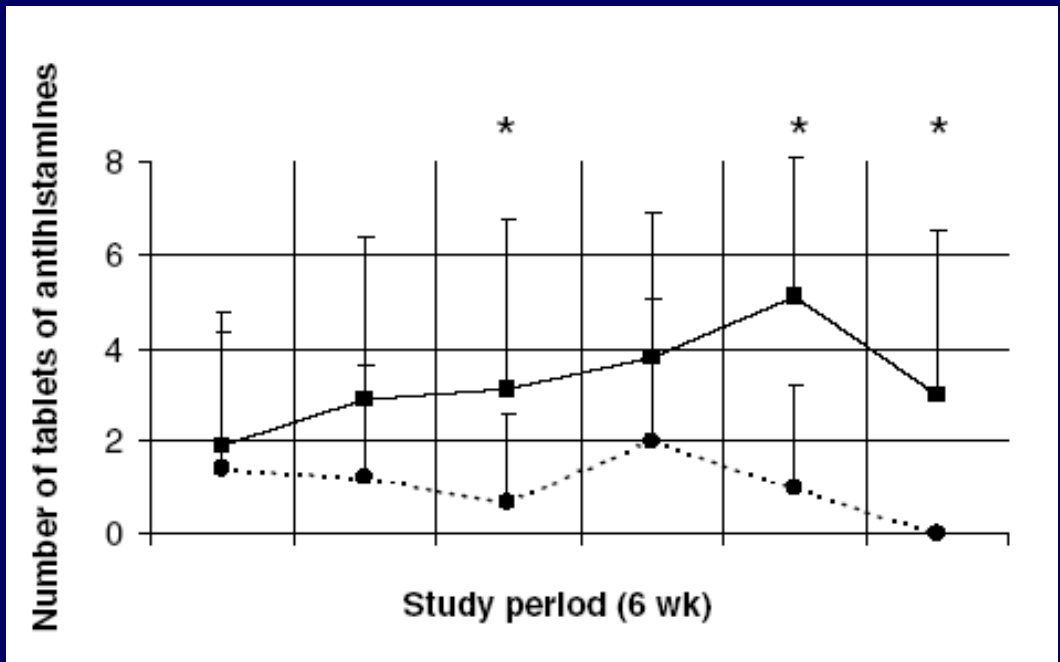
Rhinitis score: nasal itching, rhinorrhea, nasal obstruction, sneezing

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

Garavello W, Romagnoli M, Sordo L, Gaini RM, Di Bernardino C, Angrisano A. Hypersaline nasal irrigation in children with symptomatic seasonal allergic rhinitis: A randomized study. *Pediatr Allergy Immunol* 2003; 14: 140–143. © 2003 Blackwell Munksgaard

Reduction of oral antihistamines

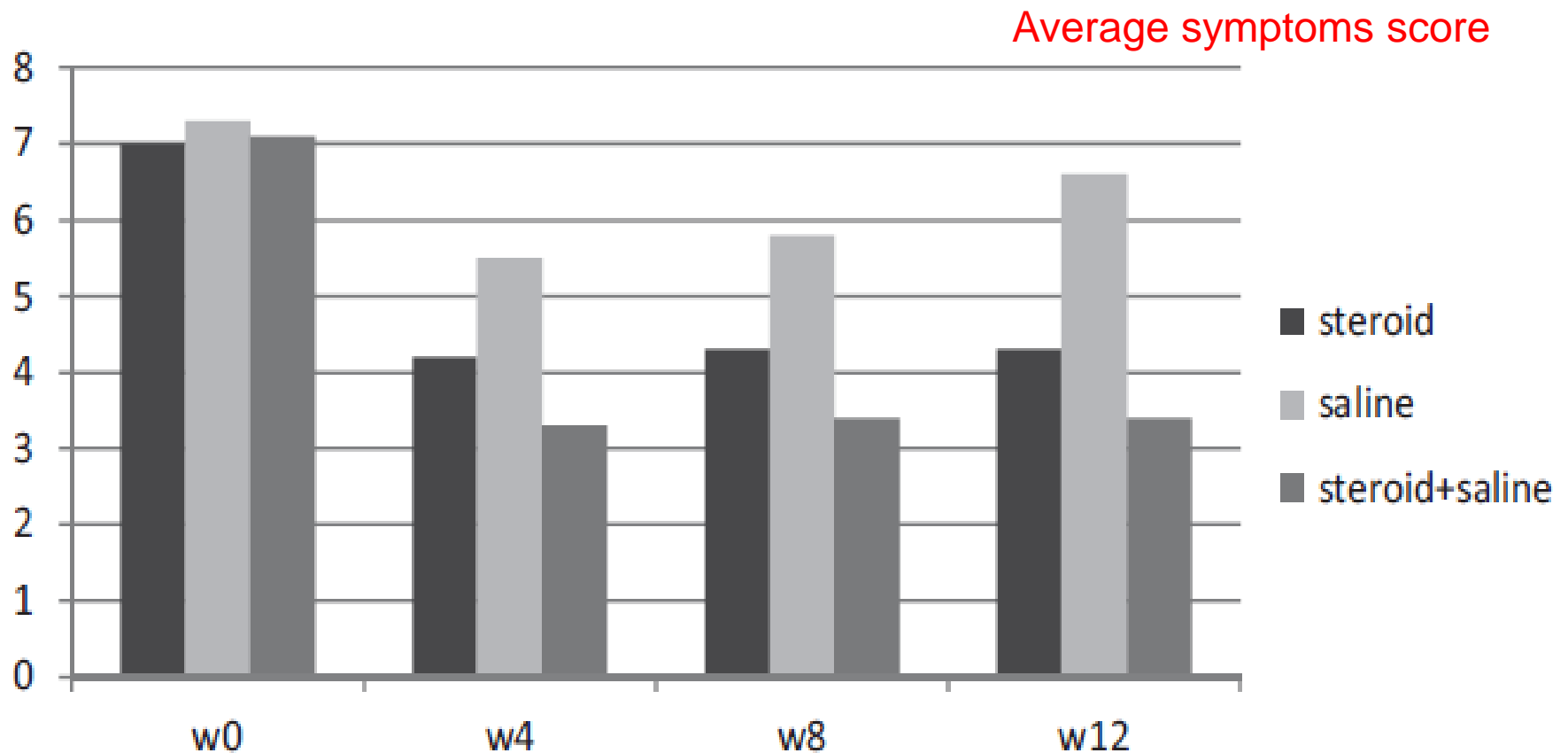
Treatment well tolerated, inexpensive



* $p < 0.05$

The effectiveness of nasal saline irrigation (seawater) in treatment of allergic rhinitis in children

Jia-Rui Chen, Lei Jin, Xiao-Yan Li*



HYPERTONIC SALINE IS MORE EFFECTIVE THAN NORMAL SALINE IN SEASONAL ALLERGIC RHINITIS IN CHILDREN

**P. MARCHISIO^{1,2}, A. VARRICCHIO³, E. BAGGI¹, S. BIANCHINI¹,
M.E. CAPASSO⁴, S. TORRETTA^{2,5}, P. CAPACCIO^{2,5}, C. GASPARINI², F. PATRIA²,
S. ESPOSITO^{1,2} and N. PRINCIPI^{1,2}**

We randomized children aged 5 to 9 years (median age 82 months) to normal saline or hypertonic saline (a 2.7% sodium chloride solution), administered twice-daily using a disposable 20 ml syringe, or no treatment. Nasal symptoms (rhinorrhea, itching, sneezing, nasal obstruction), swelling of turbinates, adenoid hypertrophy or middle ear effusion were assessed at baseline and after 4 weeks of treatment. Two hundred and twenty children (normal saline: 80; hypertonic saline: 80; no treatment: 60) completed the study.

220 bambini

HYPERTONIC SALINE IS MORE EFFECTIVE THAN NORMAL SALINE IN SEASONAL ALLERGIC RHINITIS IN CHILDREN

P. MARCHISIO^{1,2}, A. VARRICCHIO³, E. BAGGI¹, S. BIANCHINI¹,
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INTERNATIONAL JOURNAL OF IMMUNOPATHOLOGY AND PHARMACOLOGY

Vol. 25, no. 3, 721-730 (2012)

Table III. Change at 4 weeks from baseline of the proportion of children with moderate to severe individual symptoms or signs.

Symptoms/signs	Difference within children receiving normal saline (%) (95% CI)	P value from baseline	Difference within children receiving hypertonic saline (%) (95% CI)	P value from baseline	Difference within children belonging to control group (%) (95% CI)	P value from baseline
NASAL SYMPTOMS						
Rhinorrhea	- 31.2 (-18.2 to -44.3)	0.0002	- 41.2 (-27.7 to -54.8)	< 0.0001	- 5.0 (- 6.8 to 16.8)	0.58
Nasal itching	- 12.5 (- 2.7 to 27.8)	0.15	- 50.0 (- 37.6 to -62.4)	< 0.0001	- 10.0 (- 6.9 to 27.0)	0.43
Sneezing	- 25.0 (- 10.0 to -40.0)	0.002	- 32.5 (- 17.8 to - 47.2)	< 0.0001	- 10.0 (-7.1 to 27.1)	0.34
Nasal obstruction	- 15.0 (-0.1 to 30.1)	0.08	- 48.8 (- 35.5 to -62.0)	< 0.0001	- 10.0 (- 7.7 to 27.7)	0.42

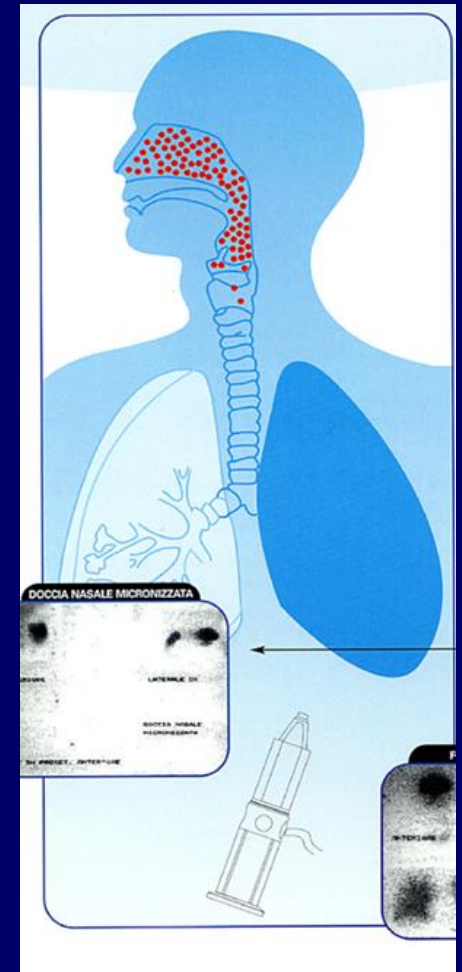
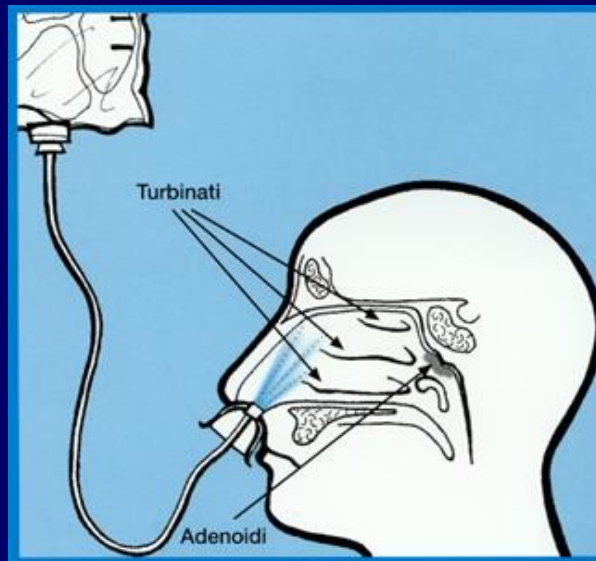
HYPERTONIC SALINE IS MORE EFFECTIVE THAN NORMAL SALINE IN SEASONAL ALLERGIC RHINITIS IN CHILDREN

P. MARCHISIO^{1,2}, A. VARRICCHIO³, E. BAGGI¹, S. BIANCHINI¹,
M.E. CAPASSO⁴, S. TORRETTA^{2,5}, P. CAPACCIO^{2,5}, C. GASPARINI², F. PATRIA²,
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Table III. Change at 4 weeks from baseline of the proportion of children with moderate to severe individual symptoms or signs.

Symptoms/signs	Difference within children receiving normal saline	P value from baseline	Difference within children receiving hypertonic saline	P value from baseline	Difference within children belonging to control group	P value from baseline
	(%) (95% CI)		(%) (95% CI)		(%) (95% CI)	
RHINOSCOPY						
Turbinate swelling	- 5.1 (- 9.9 to 19.9)	0.62	- 31.2 (- 16.5 to -46.0)	0.0001	- 5.0 (- 11.9 to 21.9)	0.70
Adenoidal hypertrophy	- 2.5 (- 10.9 to 15.9)	0.73	- 30.0 (- 15.3 to - 44.7)	< 0.0001	- 1.7 (- 14.0 to 17.3)	1.00
MIDDLE EAR						
Bilateral effusion	- 5.0 (- 10.4 to 20.4)	0.63	- 35.0 (- 20.5 to - 49.5)	< 0.0001	3.3 (- 20.4 to 13.7)	0.87

metodi molto diversi



Nasal irrigation: From empiricism to evidence-based medicine. A review

P.-L. Bastier^a, A. Lechot^a, L. Bordenave^{b,c}, M. Durand^c, L. de Gabory^{a,*,c}

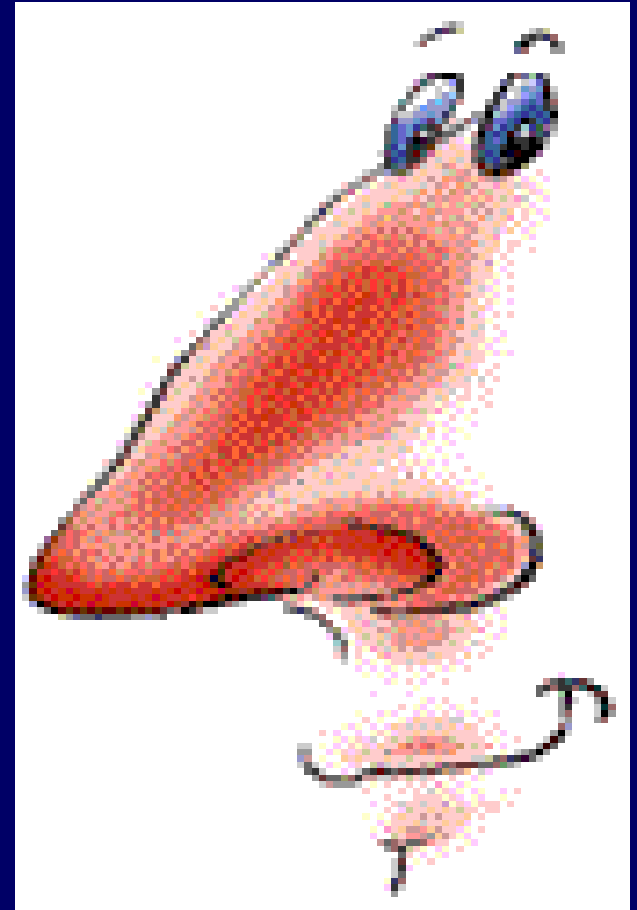
Nasal irrigation plays a non-negligible role in the treatment of numerous sinonasal pathologies and postoperative care. There is, however, a wide variety of protocols. The present review of the evidence-based literature sought objective arguments for optimization and efficacy. It emerged that large-volume low-pressure nasal douche optimizes the distribution and cleansing power of the irrigation solution in the nasal cavity. Ionic composition and pH also influence mucociliary clearance and epithelium trophicity.

And close to nose temperature

Nasal irrigation

Hypertonic → a cicli

Isotonic → quotidiana



A survey on features of allergic rhinitis in children

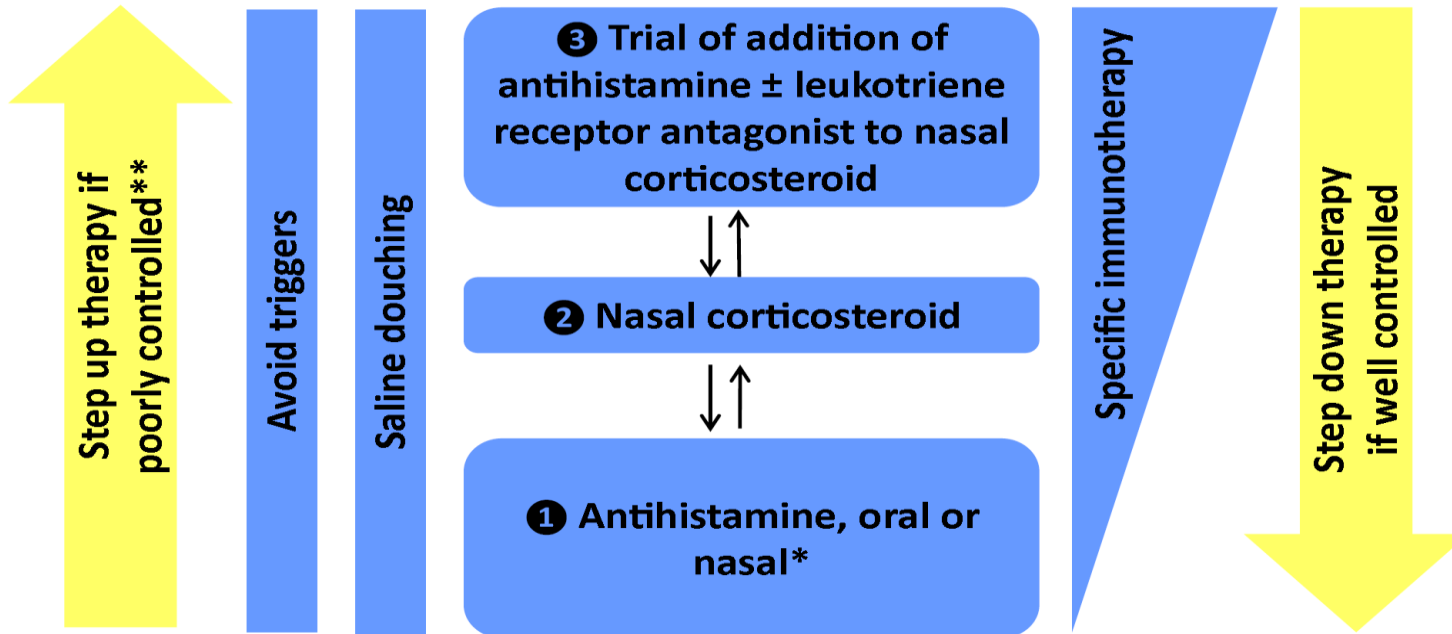
A.M. Zicari, L. Indinnimeo, G. De Castro, C. Incorvaia, F. Frati, I. Dell'Albani, P. Puccinelli, M. Scolari, M. Duse & on behalf of Pediatric SURF Study Group

Table 3. Treatments prescribed in grass-pollen-induced and mite-induced allergic rhinitis (AR).



Treatment	Grass-pollen-induced AR	Mite-induced AR
Oral antihistamines	396 (86.8%)	364 (86.3%)
Topical corticosteroids	301 (66%)	309 (73.2%)
Antileukotrienes	96 (21.1%)	149 (35.3%)
Topical antihistamines	83 (18.2%)	55 (13%)
Bronchodilators	81 (17.8%)	86 (20.4%)
Oral corticosteroids	30 (6.6%)	36 (8.5%)
Nasal decongestants	18 (3.9%)	18 (4.3%)
Chromones	10 (2.2%)	12 (2.8%)
Others	115 (10.5%)	143 (11.8%)

Approach to therapy for paediatric allergic rhinitis

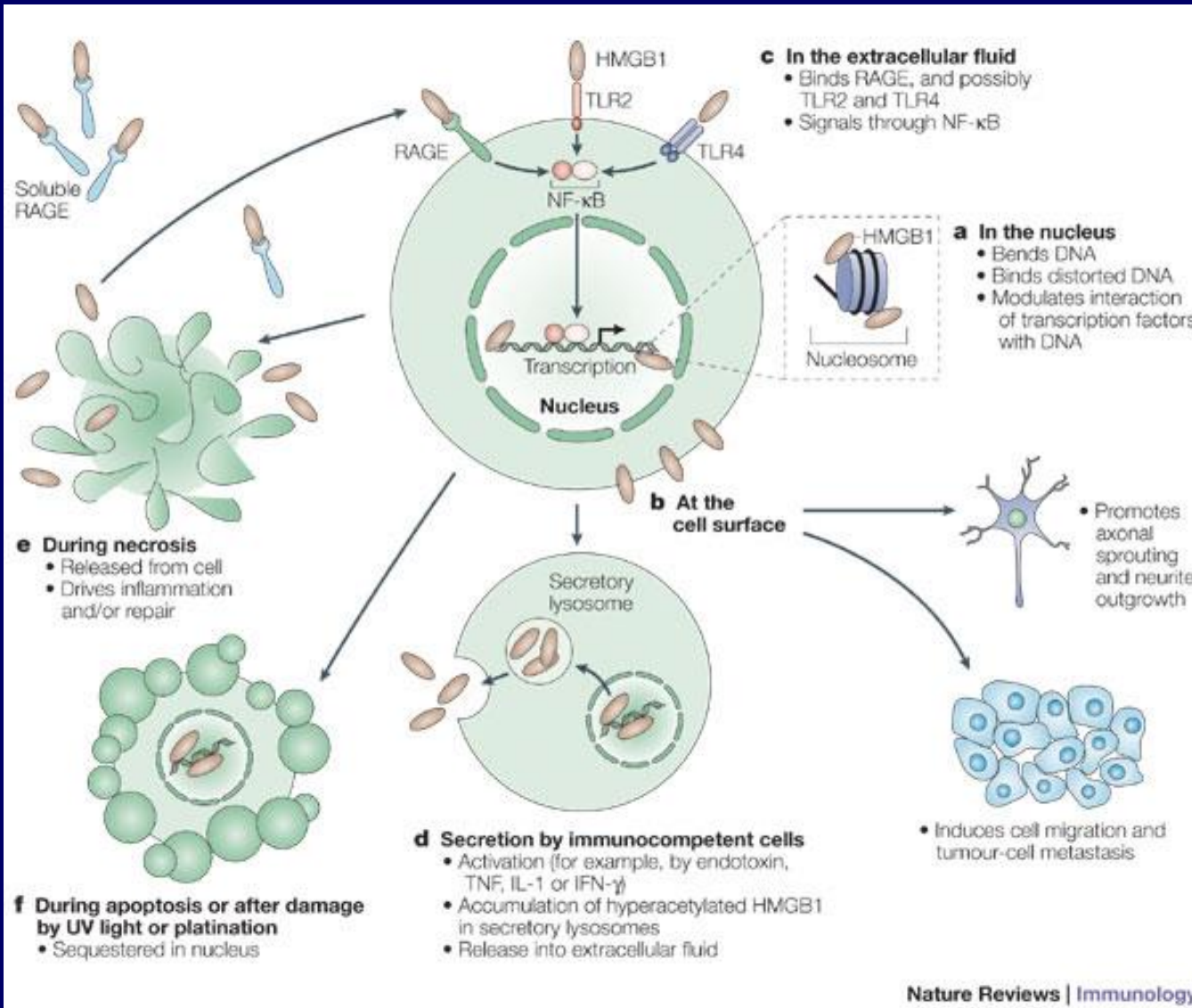


Other complementary therapies, such as homeopathy, acupuncture, butterbur and herbal medicines are not recommended.³²

OTHERS?

- **CAM** (Complementary and Alternative Medicine)
- Resveratrol e betaglucano (Miraglia del Giudice et al.)
- Probiotico con bifidobatteri (Miraglia del Giudice et al.)
- Glicirrizina (Salpietro et al, Mansi et al)

HMGB1 (high mobility group protein 1)



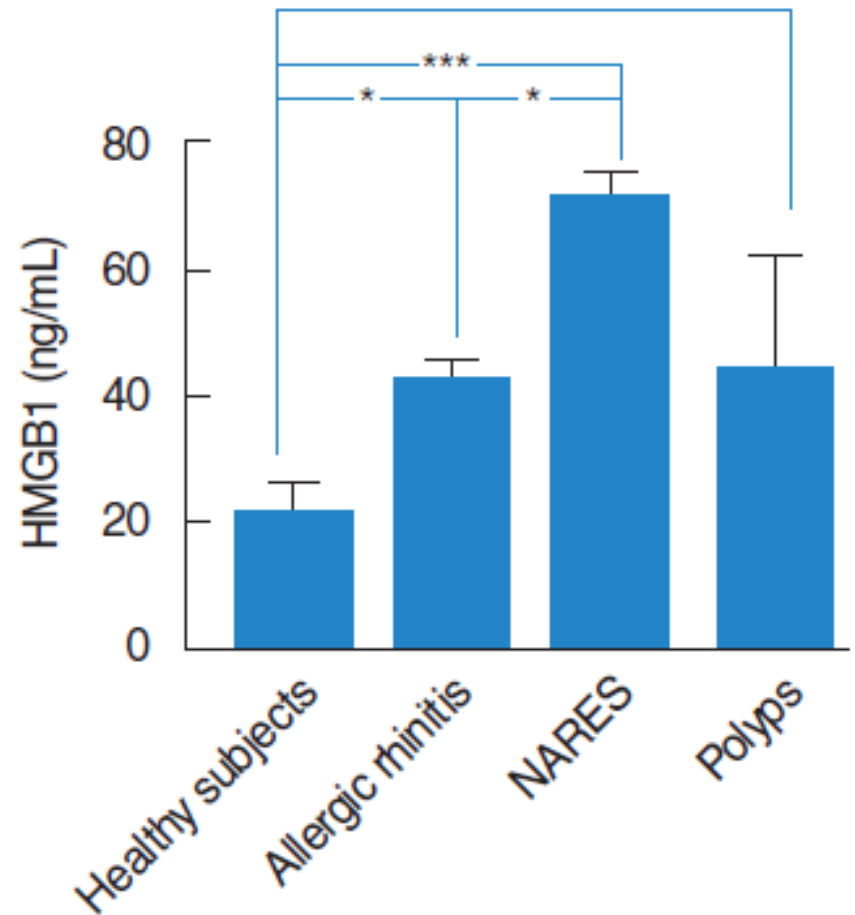
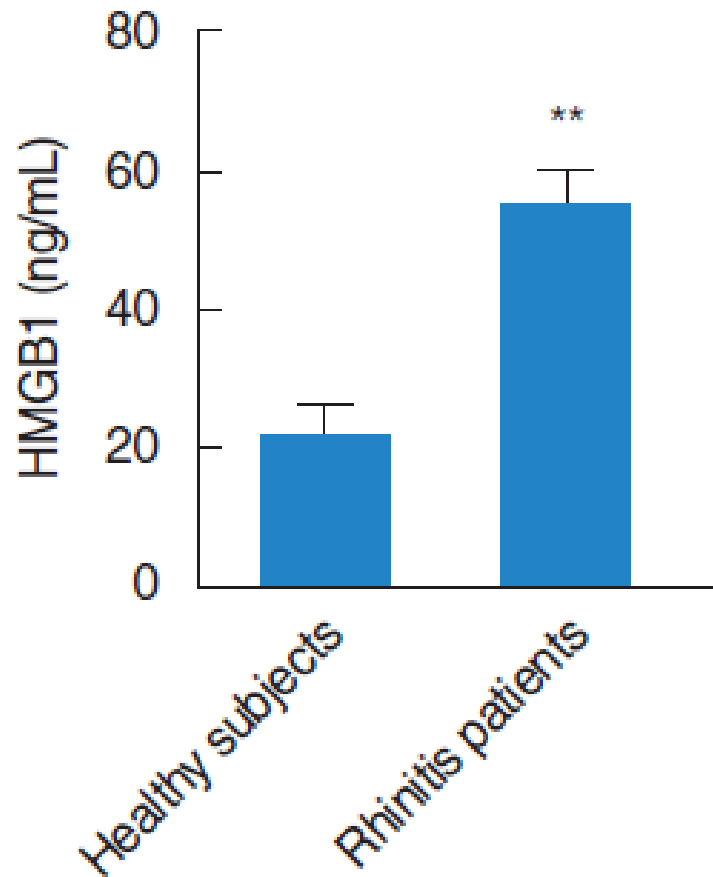
Part of
«alarmin» family

Proinflammatory
effect

Late mediator of
inflammation

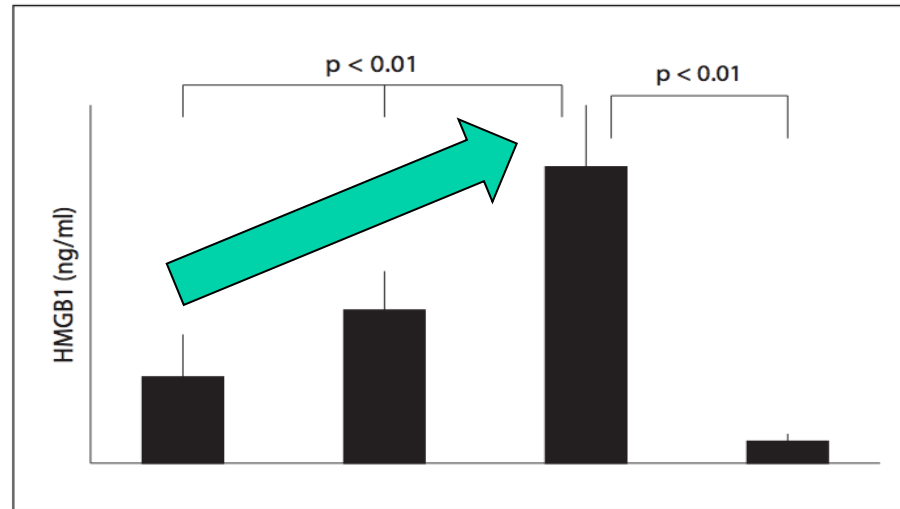
Increase in the Level of Proinflammatory Cytokine HMGB1 in Nasal Fluids of Patients With Rhinitis

Children with allergic rhinitis



Nasal High-Mobility Group Box-1 Protein in Children with Allergic Rhinitis

C. Salpietro^a C. Cuppari^a L. Grasso^a M.A. Tosca^b M. Miraglia Del Giudice^d
 M. La Rosa^e G.L. Marseglia^f A. Salpietro^a G. Ciprandi^c



HMGB1 increases with the severity of the disease

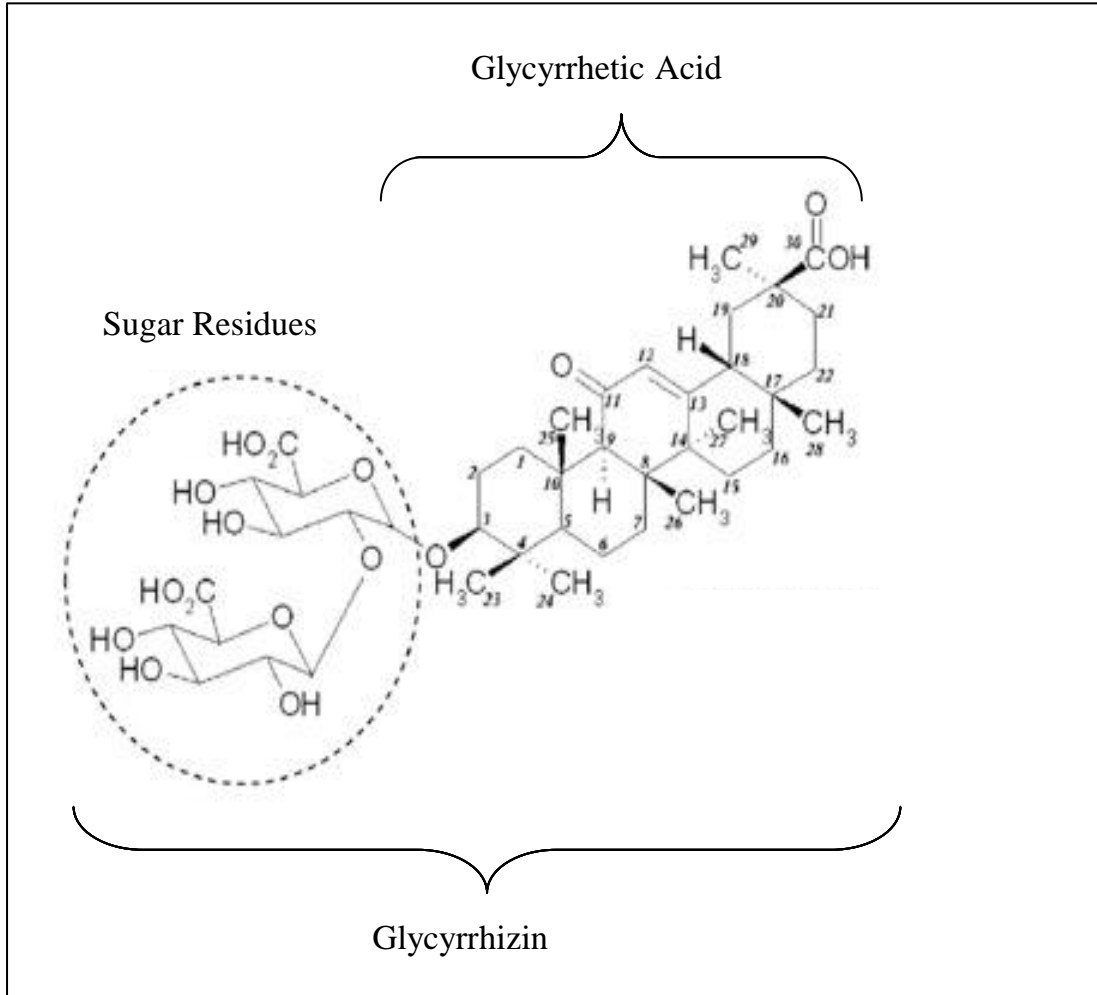
Fig. 1. Nasal HMGB1 levels in children with AR, considering the symptom severity (mild, moderate and severe) and in healthy children.

Table 2. Concentration of HMGB1 in nasal lavage, serum total IgE and peripheral eosinophil count in patients with AR (of different severities) and in healthy children

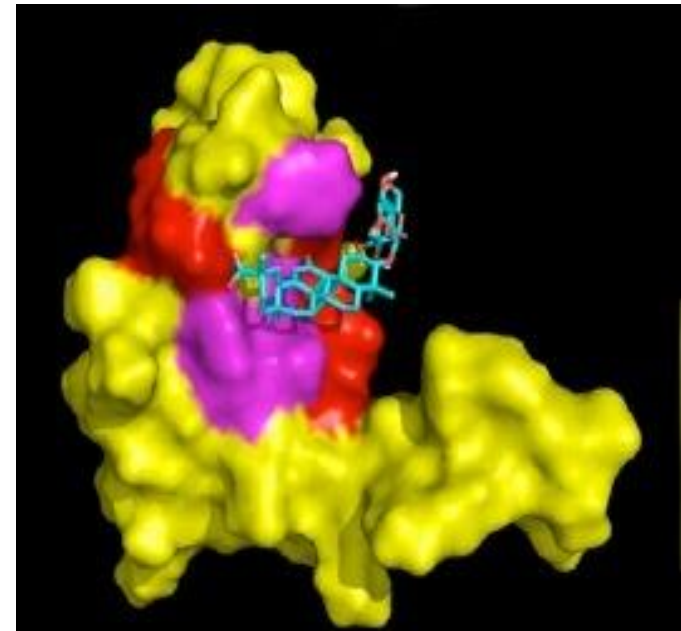
	37 Mild (VAS 3.5 ± 1.5)	32 Moderate (VAS 6.5 ± 1.5)	35 Severe (VAS 9.5 ± 1.5)	Control group
HMGB1, ng/ml	34.39 ± 17.09	61.06 ± 15.62	118.27 ± 24.74	9.27 ± 4.01
Total IgE, IU/ml	73.7 ± 12.5	125.4 ± 14.3	178.8 ± 32.3	39.75 ± 6.25
Eosinophil count, mm ³	325 ± 22.3	443.2 ± 32.3	563.3 ± 12.3	137 ± 17.9

Glycyrrhizin Binds to High-Mobility Group Box 1 Protein and Inhibits Its Cytokine Activities

Luca Mollica,¹ Francesco De Marchis,² Andrea Spitaleri,¹ Corrado Dallacosta,¹ Danilo Pennacchini,¹ Moreno Zamai,³ Alessandra Agresti,² Lisa Triscioglio,² Giovanna Musco,^{1,5,*} and Marco E. Bianchi^{2,4,5,*}



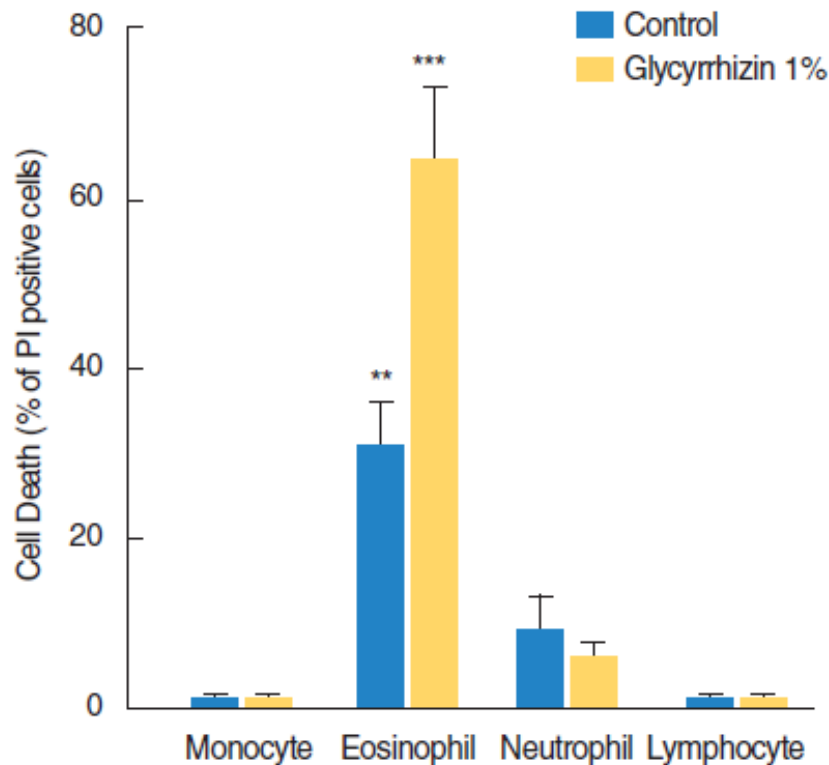
**Alcaloide derivato da
Glycyrrhiza Glabra
(liquirizia)**



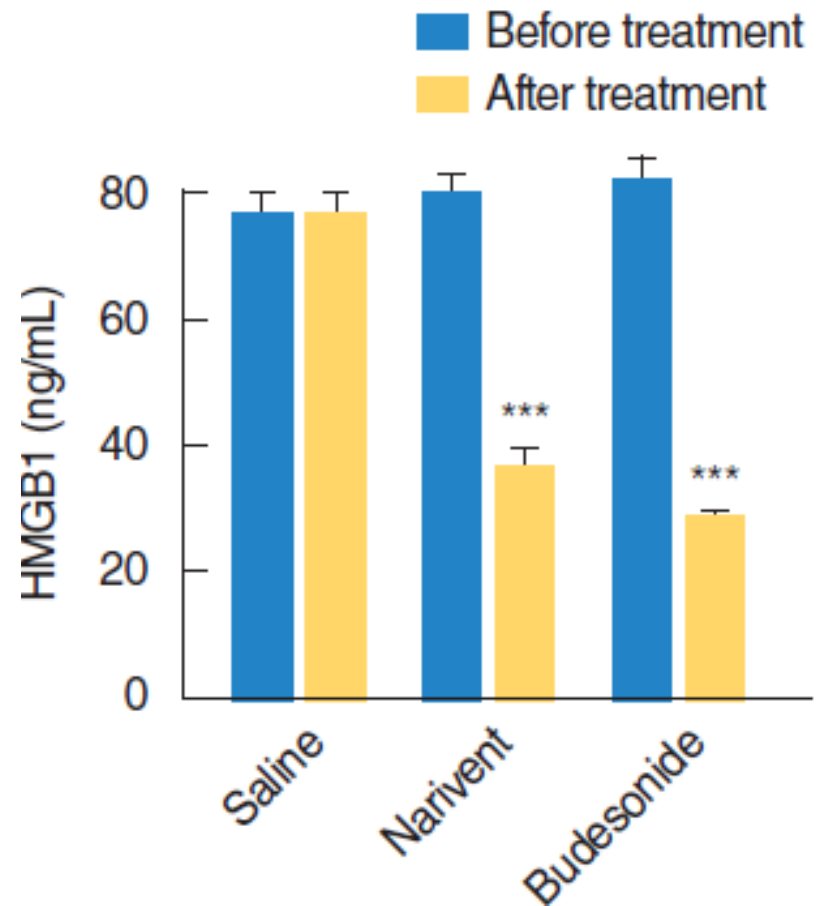
Increase in the Level of Proinflammatory Cytokine HMGB1 in Nasal Fluids of Patients With Rhinitis and its Sequestration by Glycyrrhizin Induces

Eosinophil Cell Death

Children with allergic rhinitis



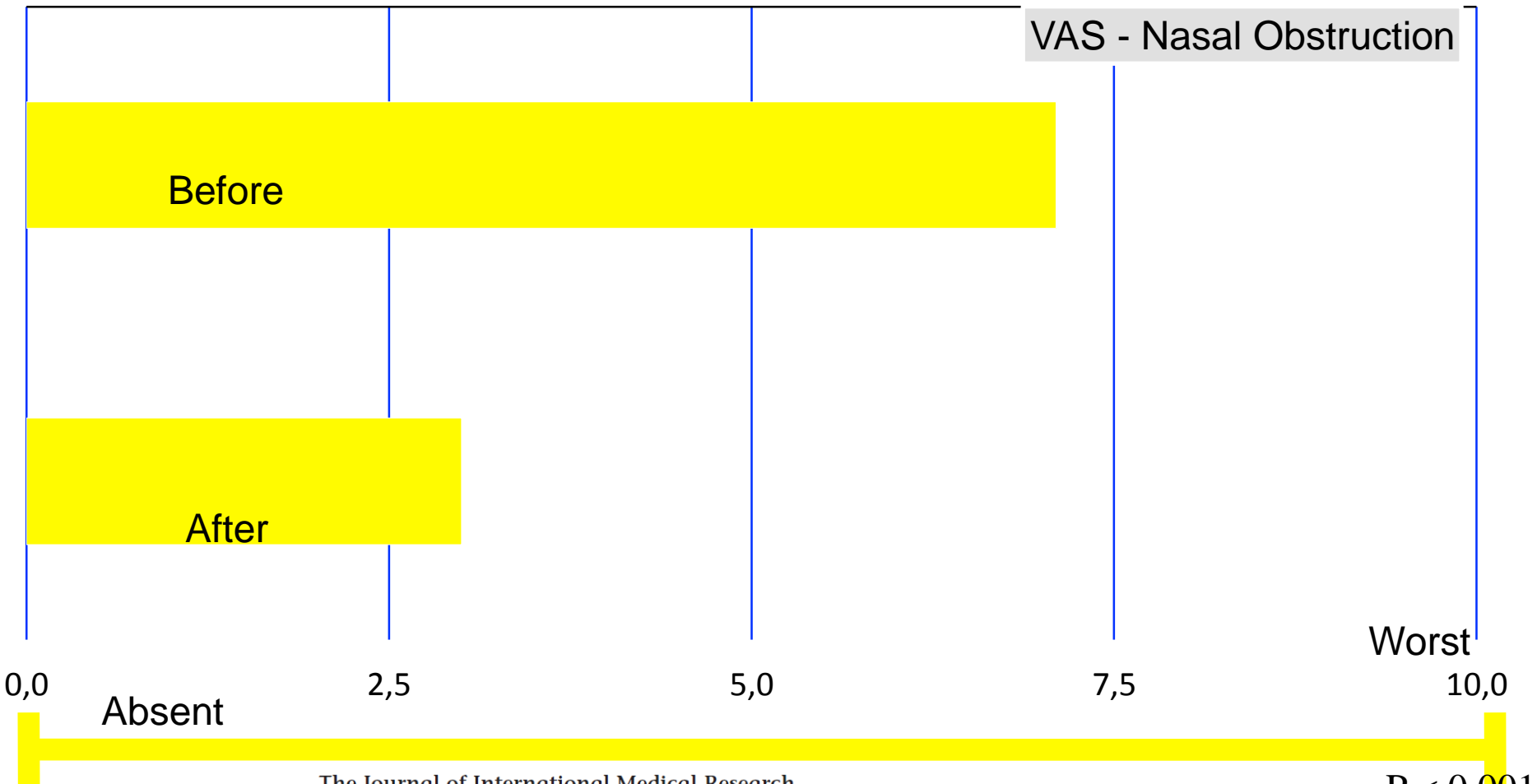
B



A Single-centre, Before–After Study of the Short- and Long-term Efficacy of Narivent® in the Treatment of Nasal Congestion

V DAMIANI¹, A CAMAIONI¹, C VITI¹, AS SCIRÈ², G MORPURGO² AND D GREGORI³

ADULTS PATIENTS



Allergic Rhinitis in Children: A Randomized Clinical Trial Targeted at Symptoms

Mansi N et al

Variable	<i>N</i>	INCs group (<i>N</i> = 20)	Narivent group (<i>N</i> = 20)	Combined (<i>N</i> = 40)	Test statistics
Sex					
M	40	9 (45 %)	10 (50 %)	19 (48 %)	<i>p</i> = 0.752
F		11 (55 %)	10 (50 %)	21 (52 %)	
Age (years)	39	7.2 (6.0, 10.9)	9.6 (6.9, 12.3)	8.12 (6.1, 11.7)	<i>p</i> = 0.163
Allergic rhinitis					
Persistent	39	10 (50 %)	10 (53 %)	20 (51 %)	<i>p</i> = 0.869
Intermittent		10 (50 %)	9 (47 %)	19 (49 %)	
AR severity					
Moderate–severe	38	7 (35 %)	13 (72 %)	20 (53 %)	<i>p</i> = 0.022
Mild		13 (65 %)	5 (28 %)	18 (47 %)	
Main allergens					
Mites	40	4 (20 %)	3 (15 %)	7 (18 %)	<i>p</i> = 0.256
Mites/graminaceae/parietaria		0 (0 %)	1 (5 %)	1 (2 %)	
Alternaria		3 (15 %)	2 (10 %)	5 (12 %)	
Dermatophagoides farinae		0 (0 %)	1 (5 %)	1 (2 %)	
Dermatophagoides farinae/dermatophagoides pteronyssinus		0 (0 %)	2 (10 %)	2 (5 %)	
Graminaceae		5 (25 %)	1 (5 %)	6 (15 %)	
Graminaceae/parietaria		0 (0 %)	1 (5 %)	1 (2 %)	
Graminaceae mix		0 (0 %)	1 (5 %)	1 (2 %)	
Olive		2 (10 %)	5 (25 %)	7 (18 %)	
Parietaria		6 (30 %)	3 (15 %)	9 (22 %)	

2 puffs x
2 volte/die
x 4 settimane

Allergic Rhinitis in Children: A Randomized Clinical Trial Targeted at Symptoms

Mansi N et al

Percentage reduction in VAS scores for AR major subjective symptoms in each treatment group

Subjective symptoms (VAS)	N	INCs (N = 20) (%)	Narivent (N = 20) (%)	
Nasal obstruction	38	80.23	78.31	
Rhinorrhea	38	84.52	75.92	
Sneezing	36	90.47	96.15	NS
Nasal itching	35	84.52	27.77	

Allergic Rhinitis in Children: A Randomized Clinical Trial Targeted at Symptoms

Mansi N et al

Table 6 Adverse reactions recorded in each study group

Variable	N	INCs (N = 20)	Narivent (N = 20)
Presence of adverse reactions	40	8 (40 %)	7 (35 %)
Adverse reactions			
Epistaxis	15	6 (75 %)	1 (14 %)
Nasal dryness		2 (25 %)	6 (86 %)

Terapia farmacologica: **aderenza al trattamento**

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Un report dell'OMS segnala che nei paesi sviluppati in media il **50%** dei pazienti **NON** assume le medicine come prescritto.

*World Health Organization. Adherence to long-term therapies: evidence for action. 2003
Geneva, Switzerland*

Diversi fattori possono influenzare negativamente l'aderenza al trattamento nei pazienti con rinite

Numero di dosi giornaliere

Difficoltà di assunzione

Effetti collaterali

Regimi terapeutici complessi

Costi

Brixner DJ, et al. Am J Manag Care. 2007

Marple BF, et al. Otolaryngol Head Neck Surg. 2007

<

Il trattamento dovrebbe essere il più semplice possibile, il paziente dovrebbe essere informato ed educato a proposito della patologia e dei farmaci e l'aderenza dovrebbe essere periodicamente verificata.

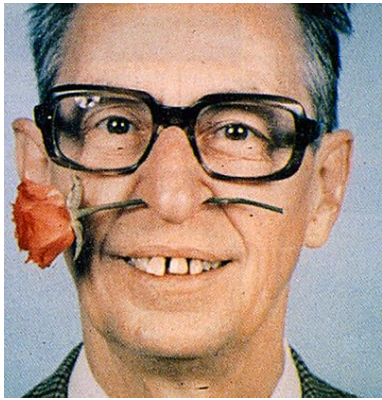
Educazione del paziente

La comunicazione e l'educazione del paziente hanno un **ruolo centrale nella gestione della rinite allergica**. Hanno lo **scopo** di ***ottenere un adeguato livello di compliance alle prescrizioni terapeutiche e di delegare al paziente adeguati spazi di autocontrollo e autogestione, sotto la supervisione del medico curante.***

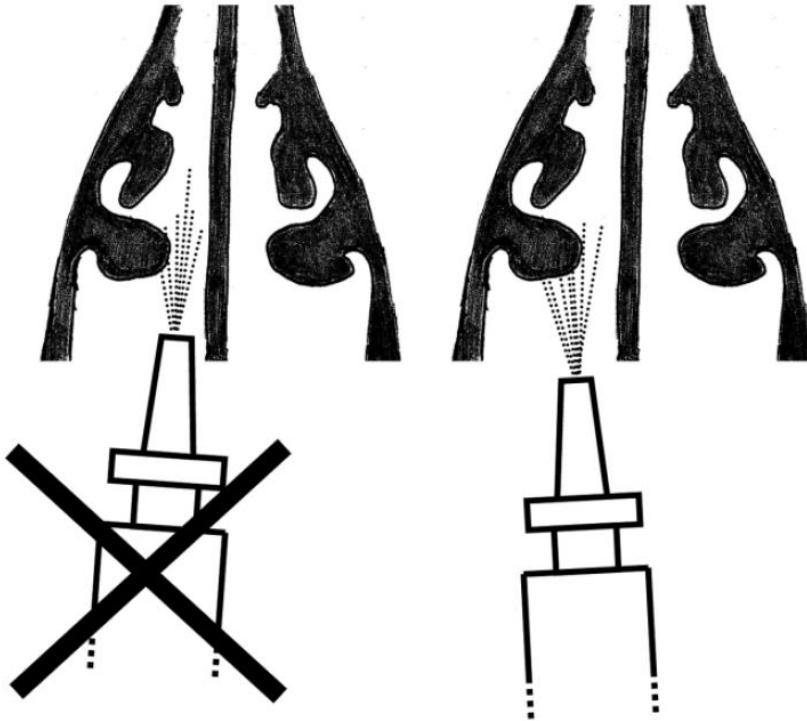
PERCORSO DELL'EDUCAZIONE TERAPEUTICA

che guiderà il paziente o la sua famiglia verso un cambiamento nello stile di vita, adattandolo alle esigenze che la patologia richiede.

1. Valutazione clinica e diagnosi di RA
2. **Comunicazione** della Diagnosi e descrizione della malattia.
3. **Spiegazione** del rapporto tra l'allergene e i sintomi e delle possibili reazioni crociate tra pollini e alimenti.
4. **Indicazione** dei rischi, compresa la possibilità di un'evoluzione naturale della malattia o dello sviluppo di co-morbidity.
5. **Comunicazione** delle migliori strategie per prevenire i sintomi
6. **Comunicazione** della strategia terapeutica più adeguata
7. **Educazione** all'autogestione nell'uso corretto dei farmaci e dei dispositivi medici.
8. Valutazione periodica del paziente e verifica delle competenze acquisite



Correct administration of a nasal spray



- Correct administration of a nasal spray, to optimise exposure of the mucosa overlying the inferior turbinate to the drug.
- Nasal sprays should be administered with the nozzle just inside the nose and **directed laterally towards the outside wall**, in order to achieve exposure of the nasal mucosa overlying the inferior turbinate to the drug.
- Children should be instructed **not to sniff hard** as this impedes the equal distribution of the solution and results in increased deposition in the nasopharynx



Grazie per l'attenzione