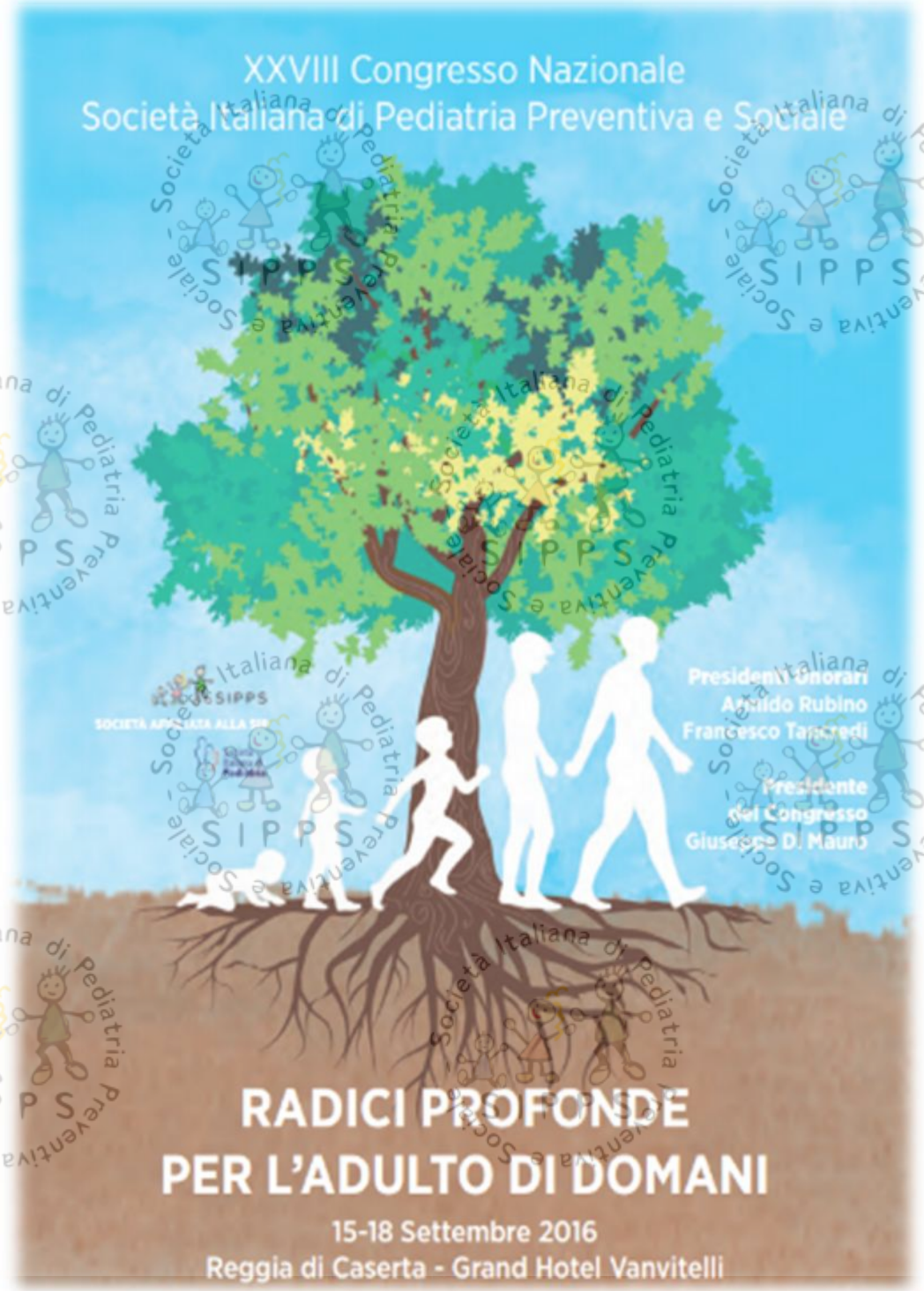

USO RAZIONALE DEGLI ANTIBIOTICI IN ETÀ PEDIATRICA

PROF. ELENA CHIAPPINI

A.O.U. MEYER, DIPARTIMENTO DI SCIENZE DELLA SALUTE,

UNIVERSITÀ DI FIRENZE

Full Text (PDF)

Roger Collier

Choosing Wisely concept has universal appeal

CMAJ September 6, 2016 188:E276; published ahead of print July 25, 2016,

"It transcends all these different health care systems and different payment schemes because it resonates with doctors about the core essence of what it is to work with patients, and that is the same in every country," says Dr. Wendy Levinson, chair of Choosing Wisely Canada and a professor of medicine at the University of Toronto. "That is the amazing part of this story. Give me another example where there has been so much interest across countries in anything about changing health care systems."

skynesher/iStock

Physicians in many countries agree that reducing the use of some medical tests, such as MRI scans, is a good idea.

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American Academy of Pediatrics

Ten Things Physicians and Patients Should Question

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

9

Avoid the use of surveillance cultures for the screening and treatment of asymptomatic bacteriuria.

There is no evidence that surveillance urine cultures or treatment of asymptomatic bacteriuria is beneficial. Surveillance cultures are costly and produce both false positive and false negative results. Treatment of asymptomatic bacteriuria is harmful and increases exposure to antibiotics, which is a risk factor for subsequent infections with a resistant organism. This also results in the overall use of antibiotics in the community and may lead to unnecessary imaging.

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ConsumerReportsHealth

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ABIM FOUNDATION

Antibiotics for a sore throat, cough, or runny nose

When children need them—and when they don't

If your child has a sore throat, cough, or runny nose, you might expect the doctor to prescribe antibiotics. But most of the time, children don't need antibiotics to treat a respiratory illness. In fact, antibiotics can do more harm than good. Here's why:

Antibiotics fight bacteria, not viruses.
If your child has a bacterial infection, antibiotics may help. But if your child has a virus, antibiotics will not help your child feel better or keep others from getting sick.

- Most colds and flus are viruses.
- Chest colds, such as bronchitis, are also usually caused by viruses. Bronchitis is a cough with a lot of thick, sticky phlegm or mucus. Cigarette smoke and particles in the air can also cause bronchitis. But bacteria are not usually the cause.
- Most sinus infections (sinusitis) are also from viruses. The symptoms are a lot of mucus in the nose and post-nasal drip. Mucus that is colored does not necessarily mean your child has a bacterial infection.

In most cases, antibiotics will not help your child.
Usually, antibiotics do not work against colds, flu, bronchitis, or sinus infections because these are viruses. Sometimes bacteria cause sinus infections, but even then the infection usually clears up on its own in a week or so. Many common ear infections also clear up on their own without antibiotics.

Some sore throats, like strep throat, are bacterial infections. Symptoms include fever, redness, and trouble swallowing. However, most children who have these symptoms do not have strep throat. Your child should have a strep test to confirm that it's strep, and then, if they're needed, the doctor will prescribe antibiotics.

Antibiotics have risks.
Side effects from antibiotics are a common reason that children go to the emergency room. The drugs can cause diarrhea or vomiting, and about 5 in 100 children have allergies to them. Some of these allergic reactions can be serious and life threatening.

Overusing antibiotics also encourages stronger bacteria to grow. The stronger bacteria do not respond to antibiotics. This means that the next time your child needs antibiotics for a bacterial infection, they will not work as well. This is sometimes called "antibiotic resistance." The stronger bacteria can spread from your child to other family members and schoolmates, causing infections that are more difficult to cure and more costly to treat.

Antibiotics are a waste of money if used incorrectly.
Most antibiotics do not cost a lot. But money spent on drugs that are not needed is money wasted. Also, in severe cases, treatment of infections that are antibiotic-resistant can cost as much as $29,000.

When does your child need antibiotics?
Your child may need antibiotics if:

- A cough does not get better in 14 days.
- A bacterial form of pneumonia or whooping cough (pertussis) is diagnosed.
- Symptoms of a sinus infection do not get better in ten days, or they get better and then worse again.
- Your child has a yellow-green nasal discharge and a fever of at least 102° F for several days in a row.
- Your child has strep throat, based on a rapid strep test or a throat culture. Antibiotics should not be prescribed unless one of the tests shows strep. Strep cannot be diagnosed just by looking at the throat.

02/2013

Advice from Consumer Reports

How to manage colds and flu

Make sure your child gets extra rest and fluids. Ask your child's doctor about treatments for:

Stuffy nose:

- Use saltwater (saline) nose drops or spray. For infants, use a rubber suction bulb to suck out the extra drops or spray.
- Put a cool-mist humidifier or vaporizer in your child's room. Clean the machine every day.

Cough:

- For children ages 1 to 5 years, try half a teaspoon of honey. Do not give honey to babies under one year—it is not safe.
- Try one teaspoon of honey for children 6 to 11, and two teaspoons for children 12 or older.
- Consider cough drops for children 4 and older.

Fever:

- Do not give your child aspirin, which has been linked to a rare but serious illness in children.
- Up to age 6 months, give only acetaminophen (Tylenol and generic).
- After 6 months, you can give either acetaminophen or ibuprofen (Advil, Motrin, and generic).
- Ask the doctor for the right medicine and dose for your child's age and size.

Flu vaccine:

- Children 6 months or older should get a flu vaccine each year.
- For younger children, make sure the people around them have the flu vaccine.

Over-the-counter cough and cold medicines:

- Do not give these to children under age 4.
- Many cold medicines already have acetaminophen in them, so beware of double dosing.

If antibiotics are prescribed. Make sure children take them as directed, even if they feel better. If antibiotic treatment stops too soon, the infection may get worse or spread in the body. Call the doctor if your child is not getting better with treatment.

YPRRV 954 1–6 ARTICLE IN PRESS

Paediatric Respiratory Reviews xxx (2014) xxx–xxx

Contents lists available at ScienceDirect

Paediatric Respiratory Reviews

Clinical Usefulness

Rational use of antibiotics for the management of children's respiratory tract infections in the ambulatory setting: an evidence-based consensus by the Italian Society of Preventive and Social Pediatrics

Elena Chiappini [1,*], Rachele Mazzantini [1], Eugenia Bruzzese [2], Annalisa Capuano [3], Maria Colombo [4], Claudio Cricelli [5], Giuseppe Di Mauro [6], Susanna Esposito [7], Filippo Festini [1], Alfredo Guarino [2], Vito Leonardo Miniello [8], Nicola Principi [7], Paola Marchisio [7], Concetta Rafaniello [3], Francesco Rossi [3], Liberata Sportiello [3], Francesco Tancredi [9], Elisabetta Venturini [1], Luisa Galli [1], Maurizio de Martino [1]

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EDUCATIONAL AIMS

- Provide an easy to read, evidence based document on the management of respiratory tract infections in a pediatric ambulatory setting
- Facilitate uniform clinical practice in the treatment of airway infections in children
- Promote a rational use of antibiotics in the management of respiratory tract infections in children

ARTICLE INFO

Article history:
Received 31 October 2013
Accepted 30 November 2013

Key words:
Respiratory tract infections
Children
Guidelines
Antibiotics

SUMMARY

Background: Several guidelines for the management of respiratory tract infections in children are available in Italy, as well as in other European countries and the United States of America. However, poor adherence to guidelines and the sustained inappropriate use of antibiotics have been reported. In the outpatient setting, almost half of antibiotics are prescribed for the treatment of common respiratory tract infections. In Italy the antibiotic prescription rate is significantly higher than in other European countries, such as Denmark or the Netherlands, and also the levels of antibiotic resistance for a large variety of bacteria are higher.

Therefore, the Italian Society of Preventive and Social Pediatrics organised a consensus conference for the treatment of respiratory tract infections in children to produce a brief, easily readable, evidence-based document.

Methods: The conference method was used, according to the National Institute of Health and the National Plan Guidelines. A literature search was performed focusing on the current guidelines for the treatment of airway infections in children aged 1 month–18 years in the ambulatory setting.

Quando non usare l'antibiotico ?

- Rinite acuta
- Influenza
- Sindromi simil-influenzali
- Laringo-tracheite acuta
- Laringite ipoglottica
- Bronchiolite
- Asma bronchiale

Pratiche a rischio d'inappropriatezza di cui medici e pazienti dovrebbero parlare

Cinque raccomandazioni dell'Associazione Culturale Pediatri (ACP)

1 Evitare l'uso abituale dei cortisonici inalatori nelle flogosi delle prime vie respiratorie dei bambini.

La tosse è il sintomo più frequente nei bambini che accedono all'ambulatorio del pediatra delle cure primarie. L'uso del cortisone per via aerosolica è largamente diffuso, nel nostro paese, per il trattamento delle patologie delle alte vie respiratorie e per il controllo dei sintomi tossici a tipo convulso, sebbene non esistano prove della sua efficacia. Tale pratica, se prolungata nel tempo, è associata a effetti collaterali.

2 Astenersi dal prescrivere aggiunte di latte artificiale nei primi giorni di vita ai neonati in assenza di provate indicazioni mediche.

La durata dell'allattamento al seno si correla positivamente con la salute infantile (riduzione di obesità, allergie, asma, infezioni...) e materna. L'allattamento al seno esclusivo nei primi giorni di vita è elemento predittivo positivo di una lunga durata dell'allattamento. Le supplementazioni con latti artificiali interferiscono con il processo naturale della lattazione perché annullano il meccanismo di feedback tra madre e bambino, sul quale si basa l'adeguata produzione di latte materno.

3 Non prescrivere antibiotici nelle patologie delle vie respiratorie presumibilmente virali in età pediatrica (sinusiti, faringiti, bronchiti).

Gli antibiotici sono i farmaci più prescritti in Italia e il fenomeno dell'antibiotico resistenza è un problema in progressivo aumento. L'appropriata gestione clinica delle patologie a eziologia infettiva prevede - secondo linee guida esistenti – di ricorrere alla sola nei casi che lo consentono, sulla base di criteri clinici, anamnestici ed epidemiologici, e l'utilizzo degli antibiotici solo nei casi che lo richiedano e con le modalità corrette. Evitare l'uso di antibiotici nelle infezioni presumibilmente virali e trattare in modo ottimale le infezioni batteriche possono limitare l'emergenza di patogeni resistenti e il rischio di eventi avversi da antibiotici.

4 Non effettuare Rx torace per la diagnosi e il follow up di polmonite non complicata nel bambino.

La diagnosi clinica di polmonite nel bambino è possibile, secondo le linee guida che limitano l'uso della radiografia del torace a condizioni particolari ben definite. Più in generale, nella pratica clinica, l'esecuzione di qualsiasi procedura diagnostica (analisi cliniche o valutazioni strumentali) dovrebbe essere sempre motivata dalla necessità di acquisire informazioni indispensabili per orientare la gestione di un problema. Tuttavia, nella pratica quotidiana, accade non di rado che siano effettuate indagini di "controllo" senza una reale necessità pratica, con dispendio di energie e di tempo e possibili rischi per il paziente. L'accurata valutazione anamnestica, clinica ed epidemiologica e il confronto chiaro e completo con il paziente e con i genitori sono la base di una corretta impostazione diagnostico-terapeutica e consentono di ottenere risultati ottimali, selezionando le procedure più appropriate.

5 Evitare la somministrazione di farmaci (anti H2, procinetici, inibitori di pompa protonica-PPI) nel Reflusso Gastro Esofageo (GER) fisiologico, che non compromette la crescita e non si associa a segni o sintomi sospetti di Malattia da GER. Non prescrivere medicinali ai "vomitatori felici".

Il GER fisiologico è causa molto frequente di rigurgito o vomito nel primo anno di vita, si risolve con la crescita e non vi sono evidenze significative che sia causa di lesioni, anche nel lungo periodo. I farmaci PPI non sono efficaci per risolvere il GER e non vi sono evidenze sufficienti della loro sicurezza nei bambini. L'uso dei farmaci antacidi, anti H2, PPI e pro cinetici va riservato alla Malattia da GER (GERD) correlatamente diagnosticata, che è estremamente rara in età pediatrica e per lo più associata a condizioni predisponenti. Mancano prove a sostegno dell'utilizzo dei farmaci per il GERD come patrimonio empirico a scopo diagnostico. Nei bambini piccoli, nei quali crisi di pianto inconsolabile, inquietezza, irrarcamento del tronco, talora associati a vomiti e rigurgiti, possono essere manifestazioni fisiologiche di una fase evolutiva che scompaiono in qualche settimana. Contestualmente, i farmaci per il GERD sono ampiamente prescritti sotto l'anno di vita. Per ridurre le terapie improprie è necessario riuscire a differenziare il GER fisiologico da quello associato a sintomi che mettano un approfondimento diagnostico, e comunicare adeguatamente ai genitori il significato che ne giustificati l'atteggiamento con semplici accorgimenti.

Attenzione: le informazioni sopra riportate non sostituiscono la valutazione e il giudizio del medico. Per ogni quesito relativo alle pratiche sopra individuate, con riferimento alla propria specifica situazione clinica è necessario rivolgersi al medico curante.

Febbraio 2015

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Infection (2016) 44:283–290
DOI 10.1007/s15010-015-0848-9

CrossMark

REVIEW

The "Choosing Wisely": initiative in infectious diseases

Norma Jung[1] · Clara Lehmann[1,2] · Gerd Fätkenheuer[1,2]

Table 1 Countries with published "Top Five" lists

Country	Title of campaign	Number of recommendations	Number of societies involved
Australia[a]	Choosing wisely Australia	27	5
Canada[b]	Choosing wisely Canada	102	22
Italy[c]	"Doing more does not mean doing better"	55	11
Japan[d]	Choosing wisely Japan	5	1
Netherlands[e]	Choosing wisely Netherlands	25	6
Switzerland[f]	Smarter medicine	5	1
USA[g]	Choosing wisely	409	68

Last access: 20 May 2015

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Overall, 628 single recommendations from 113 medical societies have been published

so far 51 out of 628 recommendations (8 %) are dealing with topics of ID.

unnecessary use of antibiotics in upper respiratory tract infections and asymptomatic bacteriuria were cited by several societies from different countries

(A) Treatment ($N = 30$)

Eye	Adenoviral conjunctivitis	No antibiotics	American Academy of Ophtalmology[u]
Ear	Tympanostomy tube otorrhea	No antibiotics	American Academy of Otolaryngology—Head and Neck Surgery Foundation[u]
	Acute external otitis	No antibiotics	American Academy of Otolaryngology—Head and Neck Surgery Foundation[u]
	Otitis media (children aged 2–12 years)	No antibiotics	American Academy of Family Physicians[u]
Respiratory and sinus tract	Upper respiratory infections and or sinus infections	No antibiotics	The Italian Society of General Practitioners[i] (eight times recommended[#])
	Lower respiratory infections (children under 2 years)	No systemic corticosteroids	Society of Hospital Medicine—Adult Hospital Medicine[u]
Urogenital tract	Asymptomatic bacteriuria	No antibiotics	The Royal college of pathologists of Australia[a] (six times recommended[##])
	Prostatitis without fever and sterile urine	No antibiotics	Dutch Urological Association[n]
	Uncomplicated urinary tract infections (UTIs) in women	Avoid using a fluoroquinolone antibiotic for the first-line treatment	American Urogynecologic Society[u]
	Elevated PSA without symptoms	No antibiotics	American Urological Association[u]
Nail	Suspected fungal infections of the nail without confirmation	No antifungals	American Academy of Dermatology[u]
Skin	Atopic dermatitis	No antibiotics	American Academy of Dermatology[u]
	Skin and soft tissue abscess after incision and drainage	No antibiotics	American College of Emergency Physicians[u]
	Stasis dermatitis	No antibiotics	Infectious Diseases Society of America[u]
	Surgical wound	No antibiotics	American Academy of Dermatology
	History of penicillin allergy without appropriate evaluation	No overuse of non-beta lactam antibiotics	American Academy of Allergy, Asthma and Immunology[u]
	Under antibiotic treatment	Switch antibiotics from intravenous to oral as soon as possible	Dutch Association of Internal Medicine[n]
	Recurrent infections	No immunoglobulin therapy unless impaired antibody responses to vaccines	American Academy of Allergy, Asthma and Immunology[u]

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In età pediatrica il maggior numero di prescrizioni di antibiotici viene eseguito per il trattamento delle infezioni respiratorie

Sharland M. J Antimicrob Chemother 2007;60:i15-i26

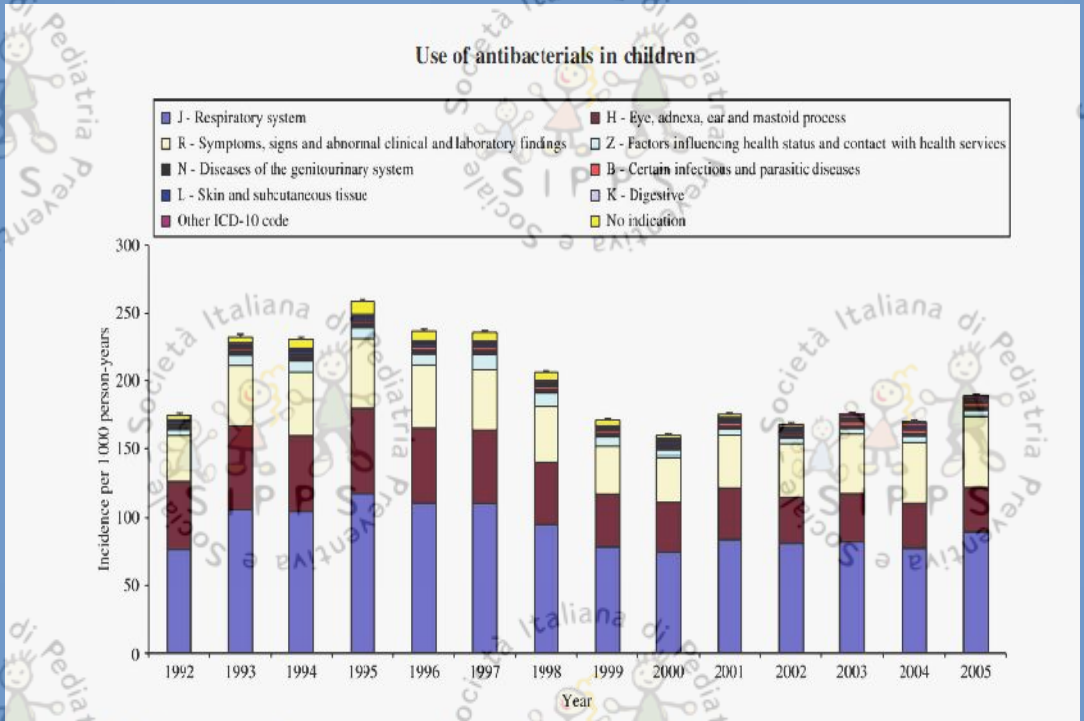


Figure 9. Indications for amoxicillin prescriptions given to 0–18 year olds [data from IMS (n = 760 090)].

Kronman HP. Pediatrics 2014; 134:956-965

(1) a meta-analysis per stabilire prevalenza di infezioni batteriche

(2) analisi retrospettiva multicentrica in ambulatori pediatrici in US

Prevalenza attesa di infezioni batteriche
→ 27.4% dei casi

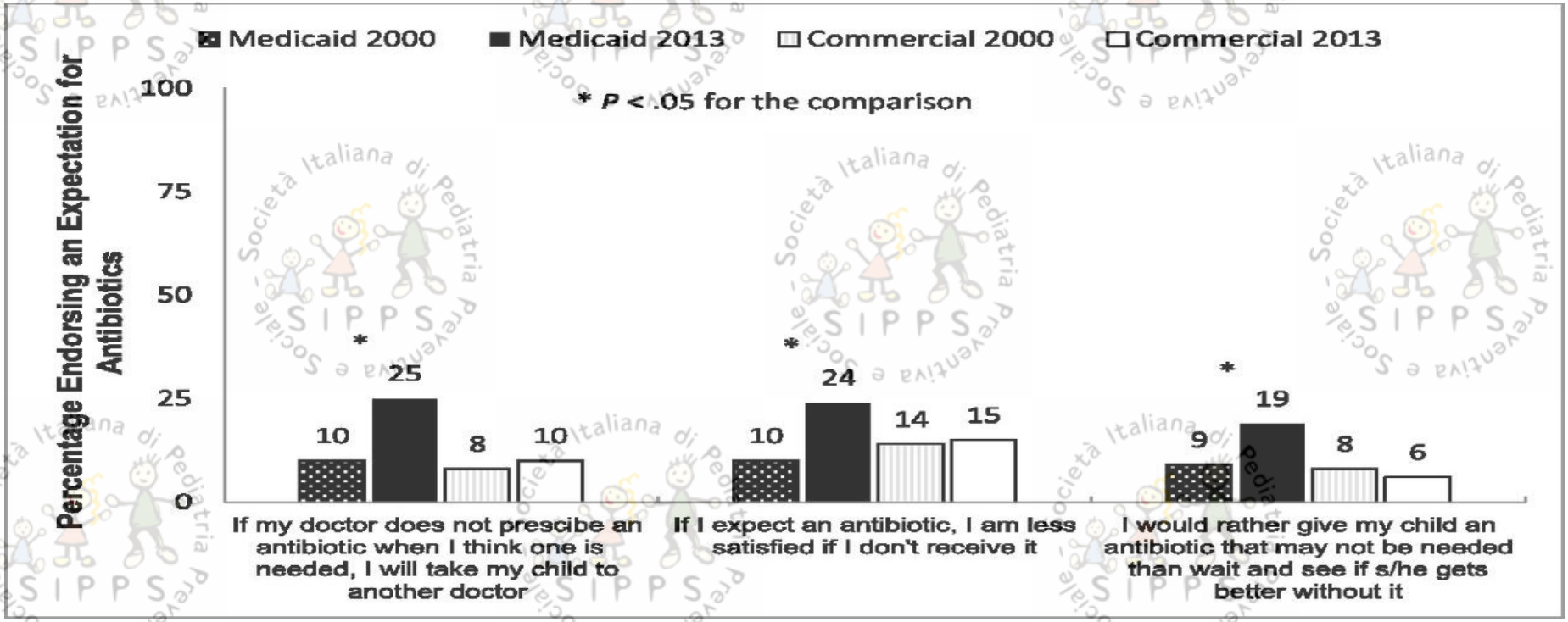
Antibiotici prescritti in infezioni delle vie aeree
→ 56.9% dei casi

Potenzialmente evitabili 11,4 milioni di prescrizioni di antibiotici in età pediatrica

.

PEDIATRICS®

Prevalence of Parental Misconceptions About Antibiotic Use. Vaz LE. Pediatrics; 2015; 36:221-231



"...each time the antibiotics have worked like magic." (Participant 4)

"I kind of thought it was quite simple really, just had an ear infection and that I needed antibiotics" (Participant 15)

Cochrane Database Syst Rev. 2016 Feb 29;2:CD007880. doi: 10.1002/14651858.CD007880.pub3.

Antibiotics for preventing suppurative complications from undifferentiated acute respiratory infection children under five years of age.

Alves Galvão MG[1], Rocha Crispino Santos MA, Alves da Cunha AJ.

Author information

Abstract

BACKGROUND: Undifferentiated acute respiratory infections (ARIs) are a large and heterogeneous group of infections not clearly restricted to one specific part of the upper respiratory tract, which last for up to seven days. They are more common in pre-school children in low-income countries and are responsible for 75% of the total amount of prescribed antibiotics in high-income countries. One possible rationale for prescribing antibiotics is the wish to prevent bacterial complications.

OBJECTIVES: To assess the effectiveness and safety of antibiotics in preventing bacterial complications in children aged two months to 59 months with undifferentiated ARIs.

SEARCH METHODS: We searched the Cochrane Central Register of Controlled Trials (CENTRAL 2015, Issue 7), which contains the Cochrane Acute Respiratory Infections Group's Specialised Register, MEDLINE (1950 to August week 1, 2015) and EMBASE (1974 to August 2015).

SELECTION CRITERIA: Randomised controlled trials (RCTs) or quasi-RCTs comparing antibiotic prescriptions with placebo or no treatment in children aged two months to 59 months with an undifferentiated ARI for up to seven days.

DATA COLLECTION AND ANALYSIS: Two review authors independently assessed trial quality and extracted and analysed data using the standard Cochrane methodological procedures.

MAIN RESULTS: We identified four trials involving 1314 children. Three trials investigated the use of amoxicillin/clavulanic acid to prevent otitis and one investigated ampicillin to prevent pneumonia.The use of amoxicillin/clavulanic acid compared to placebo to prevent otitis showed a risk ratio (RR) of 0.70 (95% confidence interval (CI) 0.45 to 1.11, three trials, 414 selected children, moderate-quality evidence). Methods of random sequence generation and allocation concealment were not clearly stated in two trials. Performance, detection and reporting bias could not be ruled out in three trials.Ampicillin compared to supportive care (continuation of breastfeeding, clearing of the nose and paracetamol for fever control) to prevent pneumonia showed a RR of 1.05 (95% CI 0.74 to 1.49, one trial, 889 selected children, moderate-quality evidence). The trial was non-blinded. Random sequence generation and allocation concealment methods were not clearly stated, so the possibility of reporting bias could not be ruled out.Harm outcomes could not be analysed as they were expressed only in percentages.We found no studies assessing mastoiditis, quinsy, abscess, meningitis, hospital admission or death.

AUTHORS' CONCLUSIONS: There is insufficient evidence for antibiotic use as a means of reducing the risk of otitis or pneumonia in children up to five years of age with undifferentiated ARIs. Further high-quality research is needed to provide more definitive evidence of the effectiveness of antibiotics in this population.

JAMA. 2013 Jun 12;309(22):2345-52. doi: 10.1001/jama.2013.6287.

Effect of an outpatient antimicrobial stewardship intervention on broad-spectrum antibiotic prescribing by primary care pediatricians: a randomized trial.

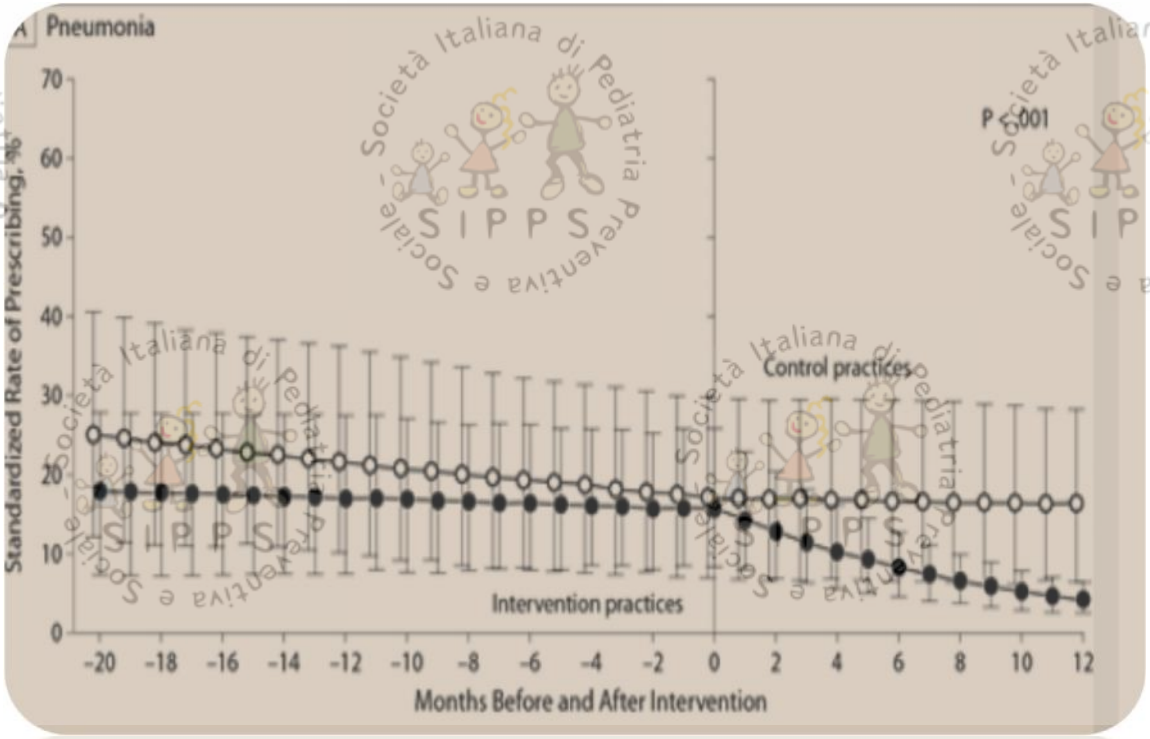
Gerber JS[1], Prasad PA, Fiks AG, Localio AR, Grundmeier RW, Bell LM, Wasserman RC, Keren R, Zaoutis TE.

162 clinicians participated.

Interventions **O ne 1-hour on-site clinician education session followed by 1 year of personalized, quarterly audit and feedback of prescribing** for bacterial and viral ARTIs or usual practice.

Main Outcomes and Measures Rates of broad-spectrum (off-guideline) antibiotic prescribing for bacterial ARTIs and antibiotics for viral ARTIs for 1 year after the intervention.

Results **Broad-spectrum antibiotic prescribing decreased from 26.8% to 14.3% (absolute difference, 12.5%)**

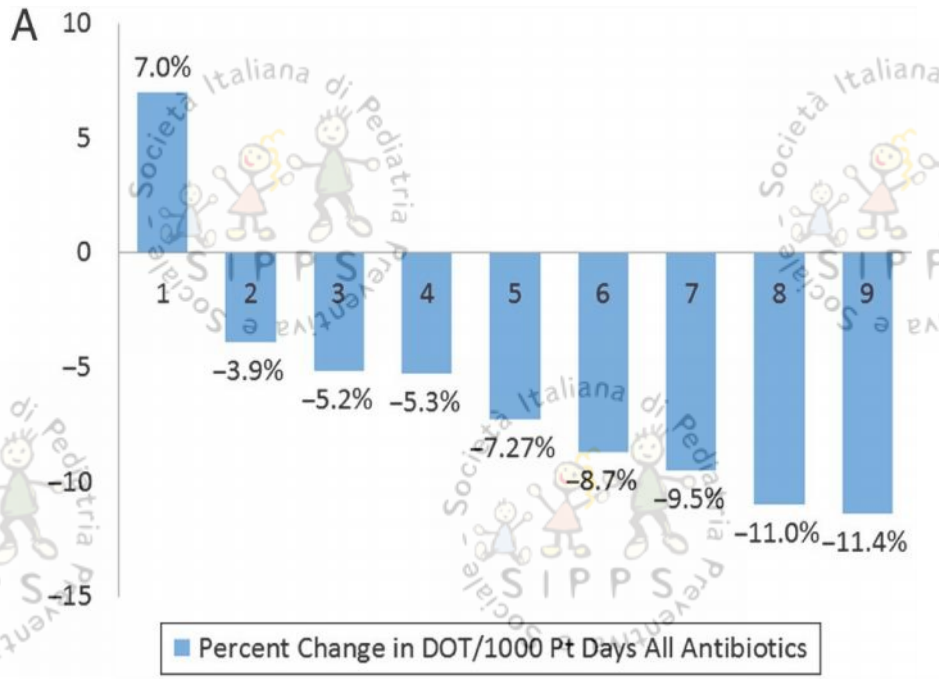


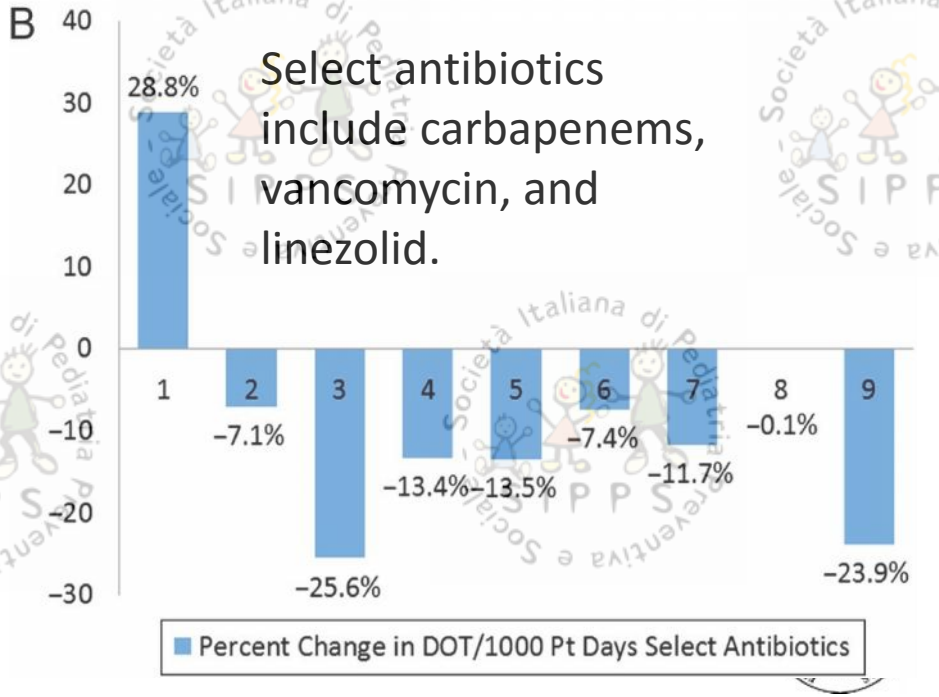
Antimicrobial stewardship programs in freestanding children's hospitals

Hersh M Pediatrics 2015;135:33-9

31 hospitals with no antimicrobial stewardship programs and 9 with them

Average percent change in DOT/1000 pt-days for 9 ASP+ hospitals for (A) all antibiotics and (B) select antibiotics after stewardship program introduction.





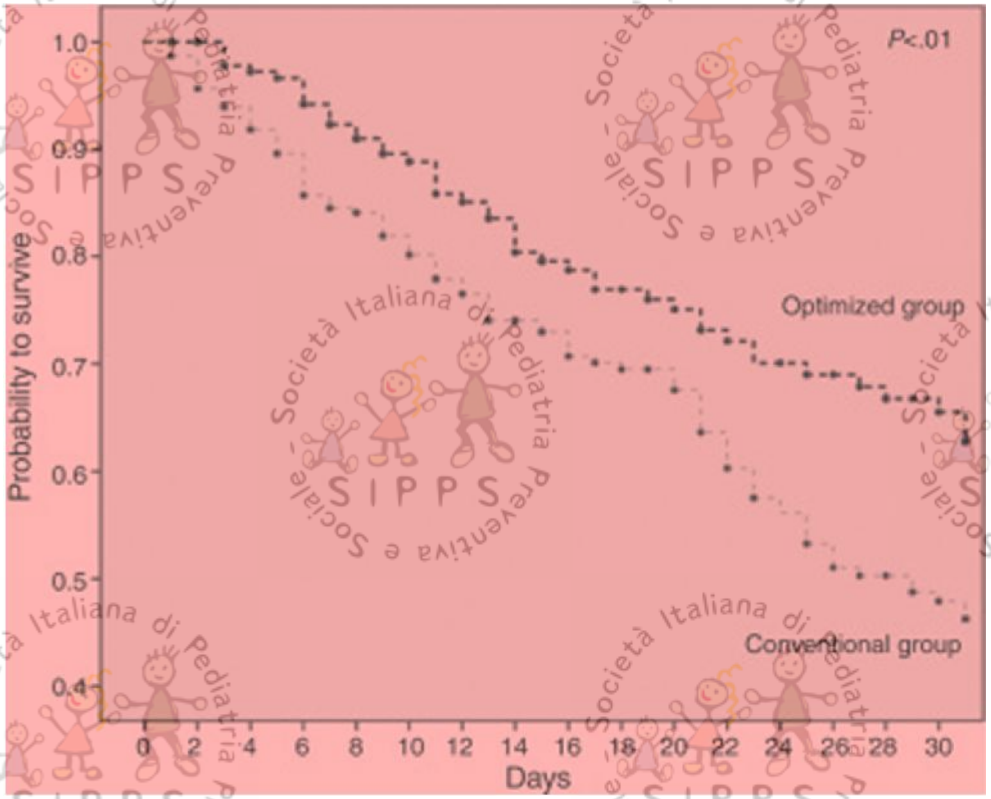
Select antibiotics include carbapenems, vancomycin, and linezolid.

Effects of a bundled Antimicrobial Stewardship Program on mortality: a cohort study.

Okomura LM Braz J Infect Dis 2015; April 17.

Bundled Antimicrobial Stewardship Program

- clinical pharmacist chart review,
- discussion with microbiologist and infectious disease physicians
- local education and continuous follow-up



Fluoroquinolones in children: update of the literature.
Bacci C, Galli L, de Martino M, Chiappini E. J Chemother. 2015;27:257-65.

Antibiotici	I	MIC
Amikacina	R	32
Amoxicillina/A.CLAV	R	>=32
Cefepime	R	16
Cefotaxime	R	>=64
Ciprofloxacina	S	<=0,25
Ertapenem	R	>=8
Gentamicina	R	8
Meropenem	R	>=16
Piperacillina/tazobactam	R	32
Tigecicilina	R	>=8
Trimetoprim Sulfam	R	>=320
Ceftazidime	S	2
Imipenem	R	>=16
Colistina	S	<=0,5

S=Sensibile, R=Resistente, I=Intermedio

I saggi di sensibilità sono interpretati secondo [illegible] (www.eucast.org) salvo diversamente specificato.

N.B. Si ricercano batteri aerobi e miceti

Epidemiology and clinical outcomes of multidrug-resistant, gram-negative bloodstream infections in a European tertiary pediatric hospital during a 12-month period.

MDR organisms among isolated species was 39%.

119 children (median age 1.1 years)

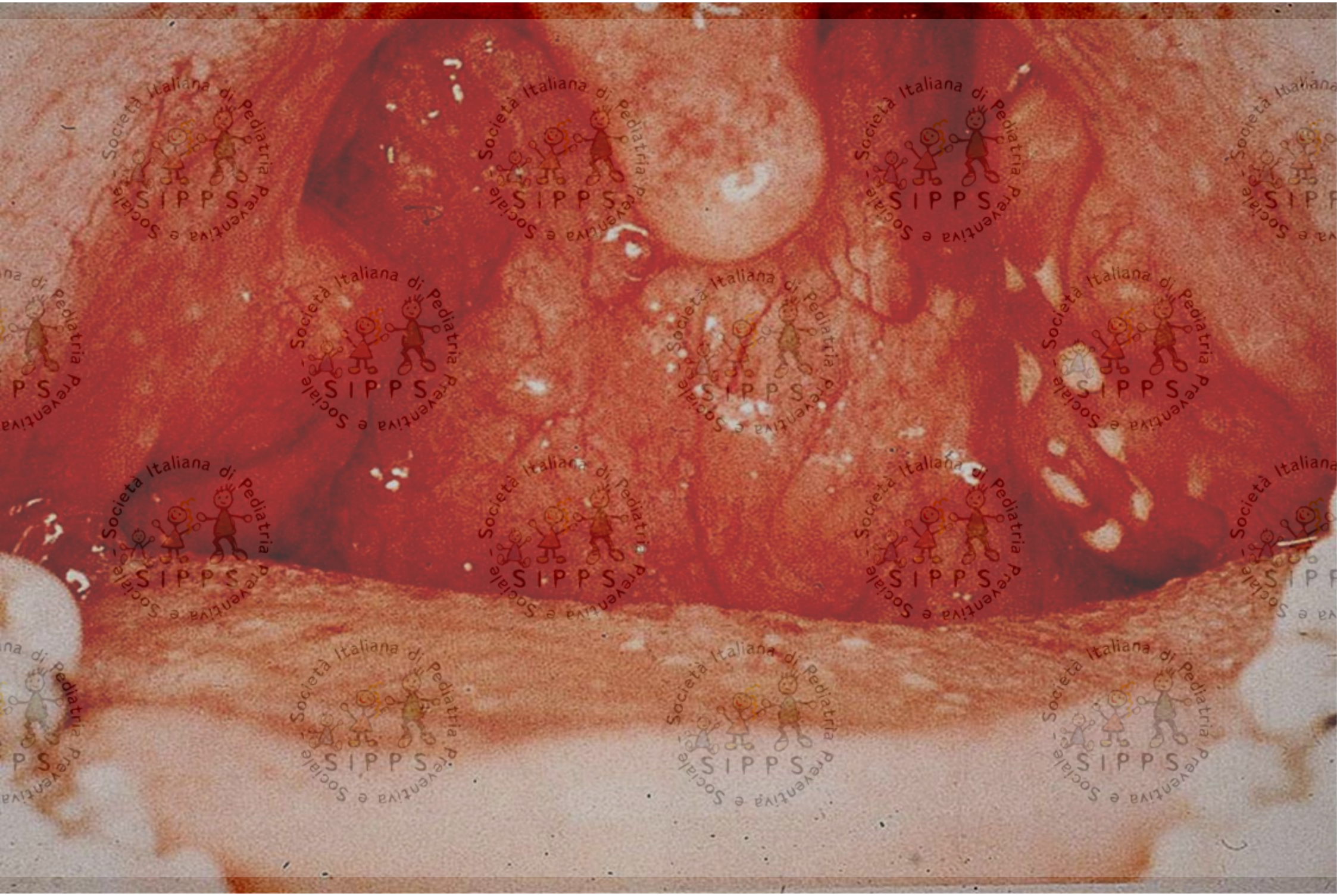
Folgori M . Pediatr Infect Dis J 2014;33:929-32.

Pathogen	Total Number (%)	MDR	ESBL+*	Carbapenem Resistant	Carbapenemase Genes
Total positive blood cultures	136	53	39	22	—
K. pneumoniae	3				2 *KPC*; 4 *OXA-48*
E. coli	2				ND
P. aeruginosa	2				6 *VIM*
Serratia marcescens	1				ND
Stenotrophomonas maltophilia					ND
Enterobacter spp					ND
Pseudomonas spp					ND
Acinetobacter spp					ND
Klebsiella oxytoca					ND
Citrobacter spp					ND
Other species	7 (5.1)	2	—	1	ND

*ESBL, extended spectrum β-lactamases.
NA, not applicable; ND, not done.

The crude rate of mortality was 16%. The mortality rate **among patients with an antibiotic-resistant isolate was 22.6%.**

Factors significantly associated with sepsis-related mortality **were antibiotic resistance (odds ratio: 4.26, 95% confidence interval: 1.07-16.9)** and hospital acquisition of infection (odds ratio: 1.13, 95% confidence interval: 1.05-1.22).



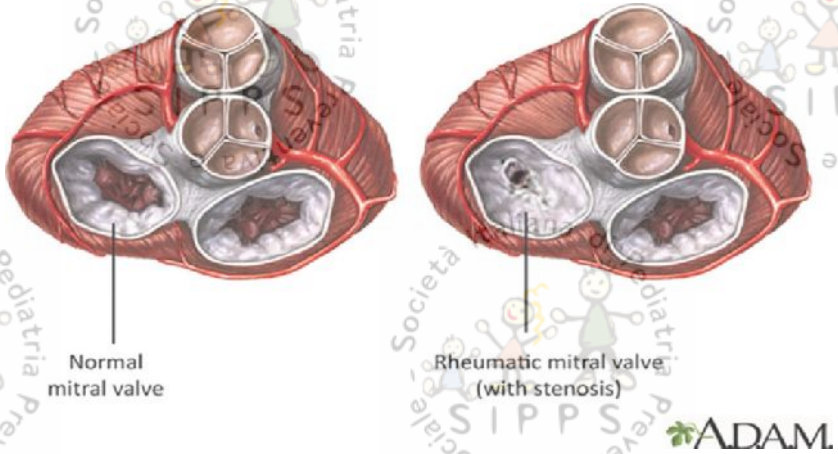
1°

- Non eseguire TAS/ANTIDNASI

The JOURNAL of PEDIATRICS

Population-based study of incidence and clinical characteristics of rheumatic fever in Abruzzo, central Italy, 2000-2009

Breda L. J Pediatr 2012;160:832-6.



retrospective study was conducted in Abruzzo to identify patients aged <18 years with a diagnosis of ARF in 2000 - 2009

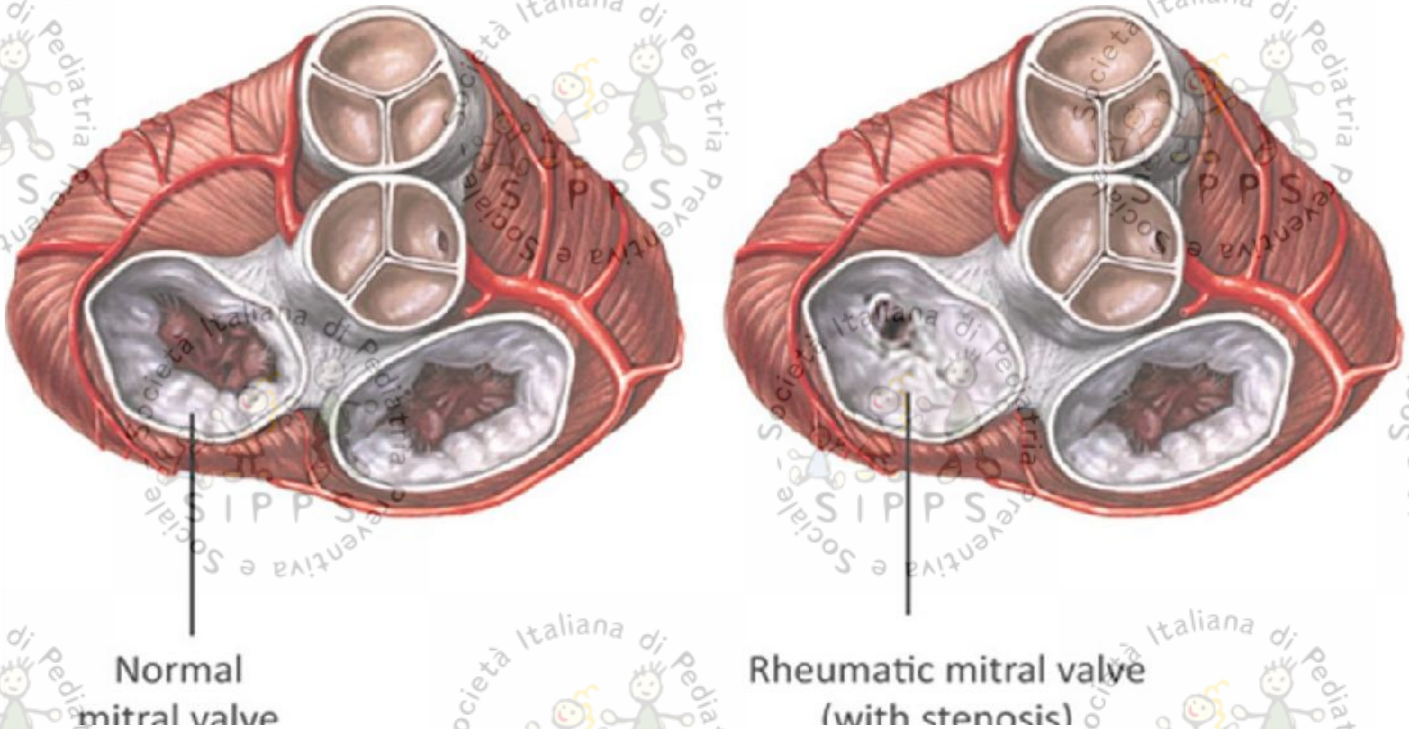
- ✓ total of **88 patients** meeting the Jones criteria for the diagnosis of ARF were identified.
- ✓ Age at diagnosis ranged from 2.5 to 17 years (average, 8.7 ± 4.0 years).
- ✓ Twelve children (**13.6%) were under age 5 years**.
- ✓ The overall incidence rate of ARF was 4.1/100 000.

American Heart Association.

Recent estimates suggest that disability related to RHD alone equals more than a quarter of all cancers put together

Mariana Mirabel et al. Circulation. 2014;130:e35-e37

Globally, RHD remains the leading cause of heart failure in children and young adults, accounting for at least 250 000 deaths annually



Il trattamento antibiotico riduce circa del 70% il rischio di malattia reumatica

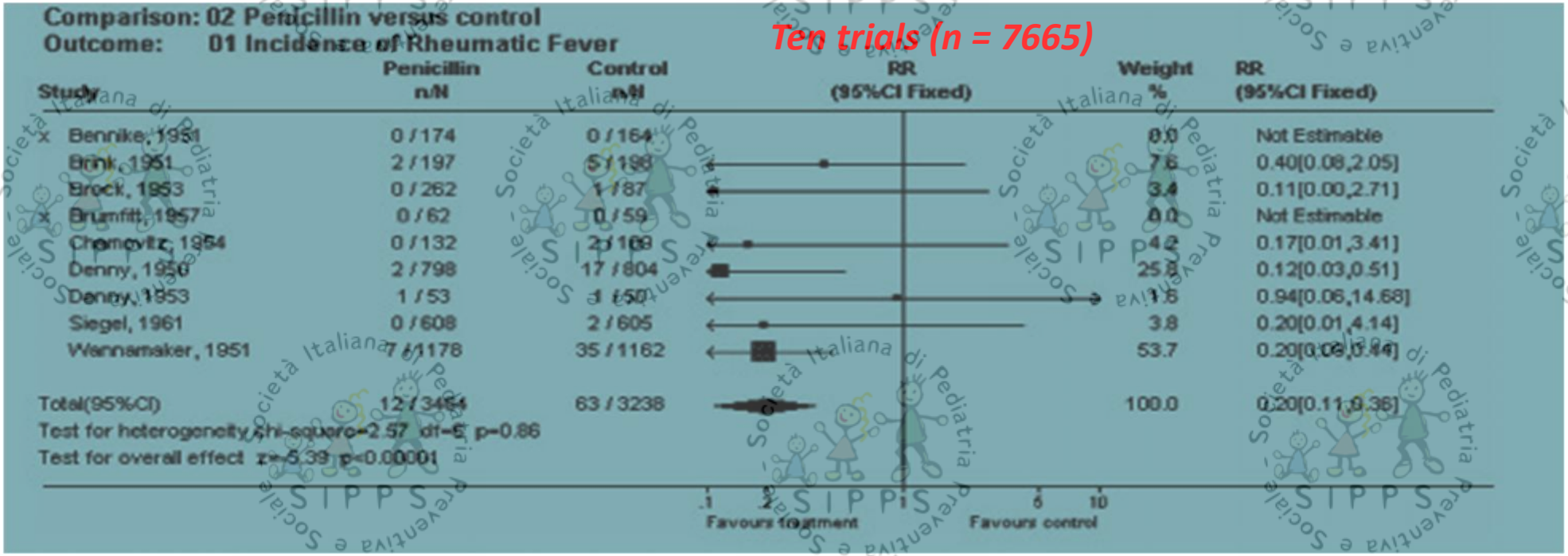
Del Mar CB et al. Cochrane Database Syst Rev 2005: CD000023
Spinks A. Cochrane Database Syst Rev 2013; Nov 5;(11):CD000023.

THE COCHRANE COLLABORATION

Antibiotics for the primary prevention of acute rheumatic fever: a meta-analysis.

Robertson KA. BMC Cardiovasc Disord. 2005; 5: 11.

Effetto protettivo di penicillina per malattia reumatica è del 80% con NNT =53. **Il costo per prevenire una malattia reumatica in Sud Africa è US$46.**



2°

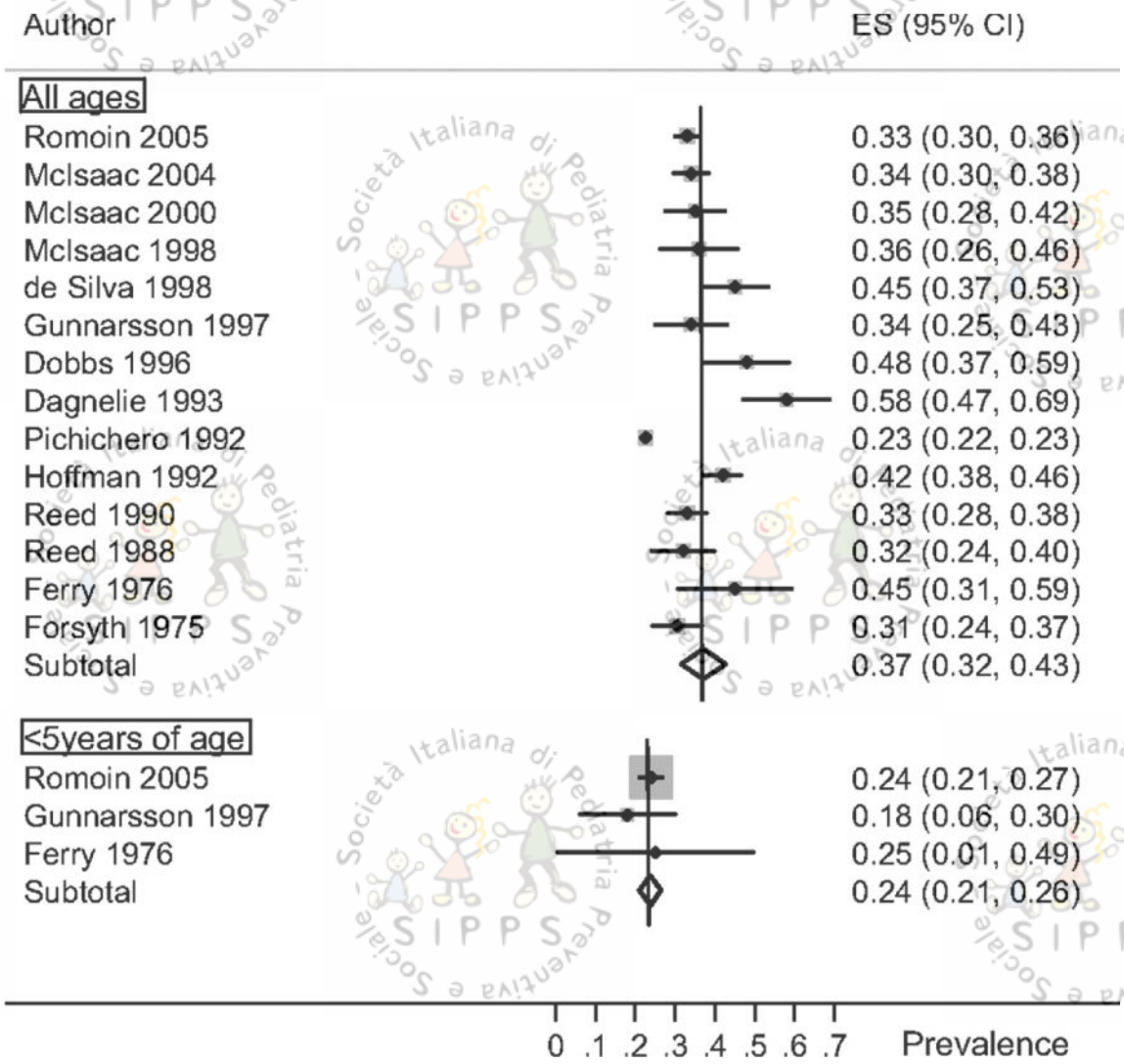
Non somministrare terapia antibiotica se prima non sia stata eseguita conferma microbiologica di infezione da SBEGA con test rapido o esame colturale

qual'è da streptococco β-emolitico di gruppo A?

Department of Health Sciences
University of Florence

Prevalence of Streptococcal Pharyngitis and Streptococcal Carriage in Children: A Meta-analysis.

Shaikh N. Pediatrics 2010;3e557-e564



29 articoli

Fra i bambini di tutte le età con faringite quelle da SBEGA sono il 37% (95% CI: 32%–43%).

Fra i bambini sotto i 5 anni il 24% (95% CI: 21%–26%)

La prevalenza di portatori è 12% (95% CI: 9%–14%).

"Centor" Score Modificato

(McIsaac - JAMA 2004)

Criterio		Punteggio
• Temperatura >38 C		1
• Assenza di tosse		1
• Linfoadenite cervicale		1
• Essudato/ipetrofia tonsillare		1
• Età:	3 - 14 anni	1
	15 – 44 anni	0
	45 anni o oltre	-1
	Totale	( )

	Probabillità di Infezione streptotoccica
<1	1-2,5
1	5-10%
2	11-17%
3	28-35%
≥4	51-53%

Management:

SCORE: 0 – 2 No fare test- Non trattare immediatamente

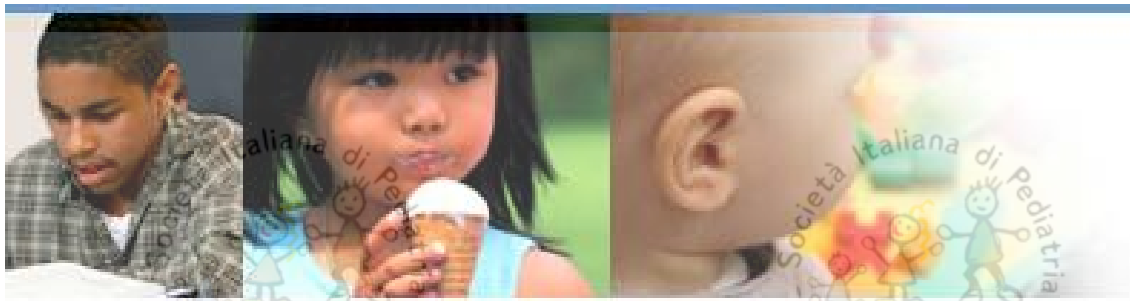
3 o oltre Trattamento empirico (Non fare test)

NICE clinical guideline 69; 2008

RACCOMANDAZIONE

Nessuno dei sistemi a punteggio è sufficiente a identificare con ragionevole sicurezza le infezioni da Streptococco β-emolitico di gruppo A. Un punteggio basso (zero o 1) del sistema a punteggio di McIsaac può essere considerato valido, in situazioni di bassa prevalenza di malattia reumatica, per escludere un'infezione streptococcica e quindi non procedere ad ulteriori indagini o terapie. (III -A)


Società Italiana di Pediatria Preventiva e Sociale
SIPPS



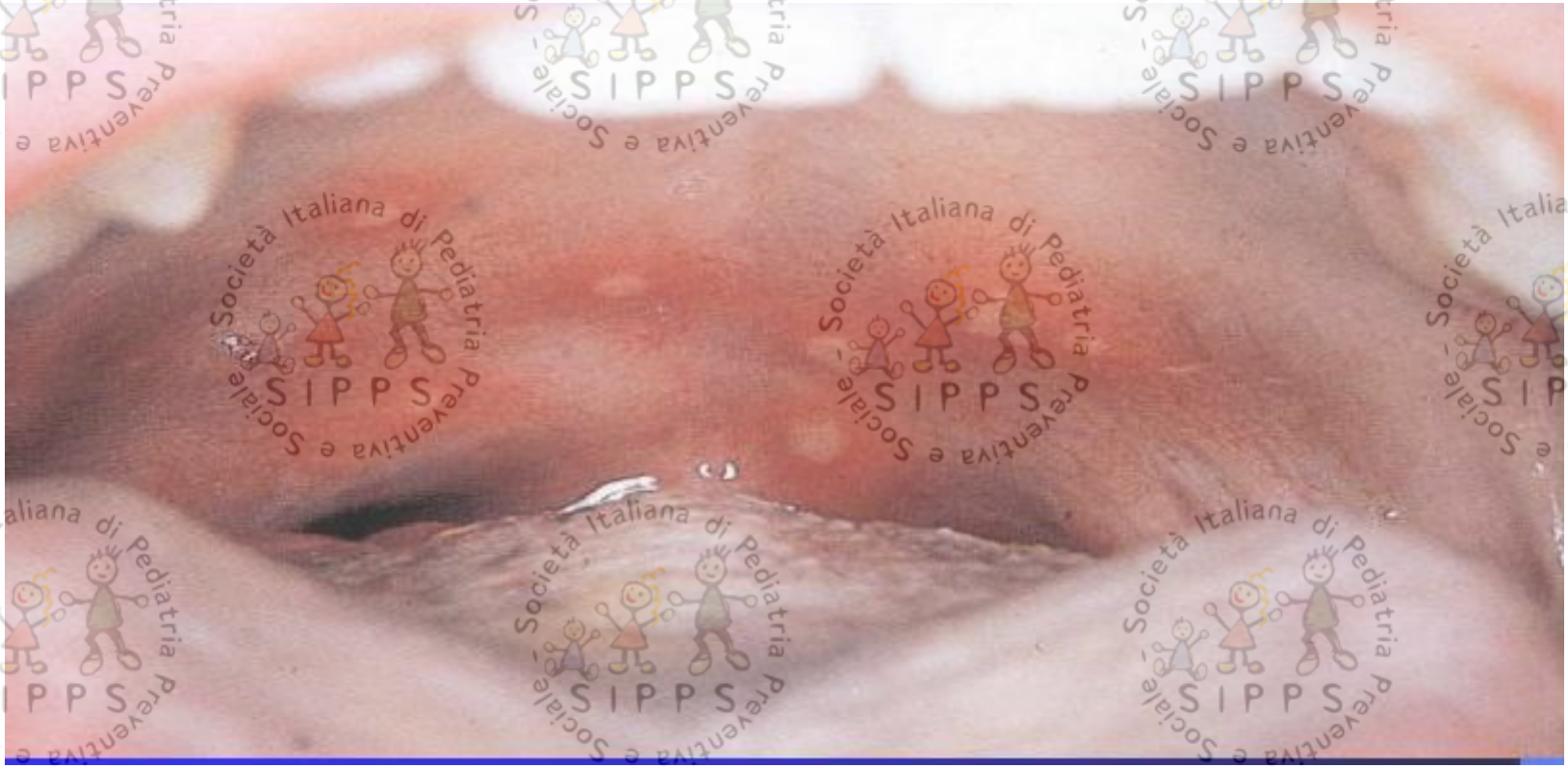
American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

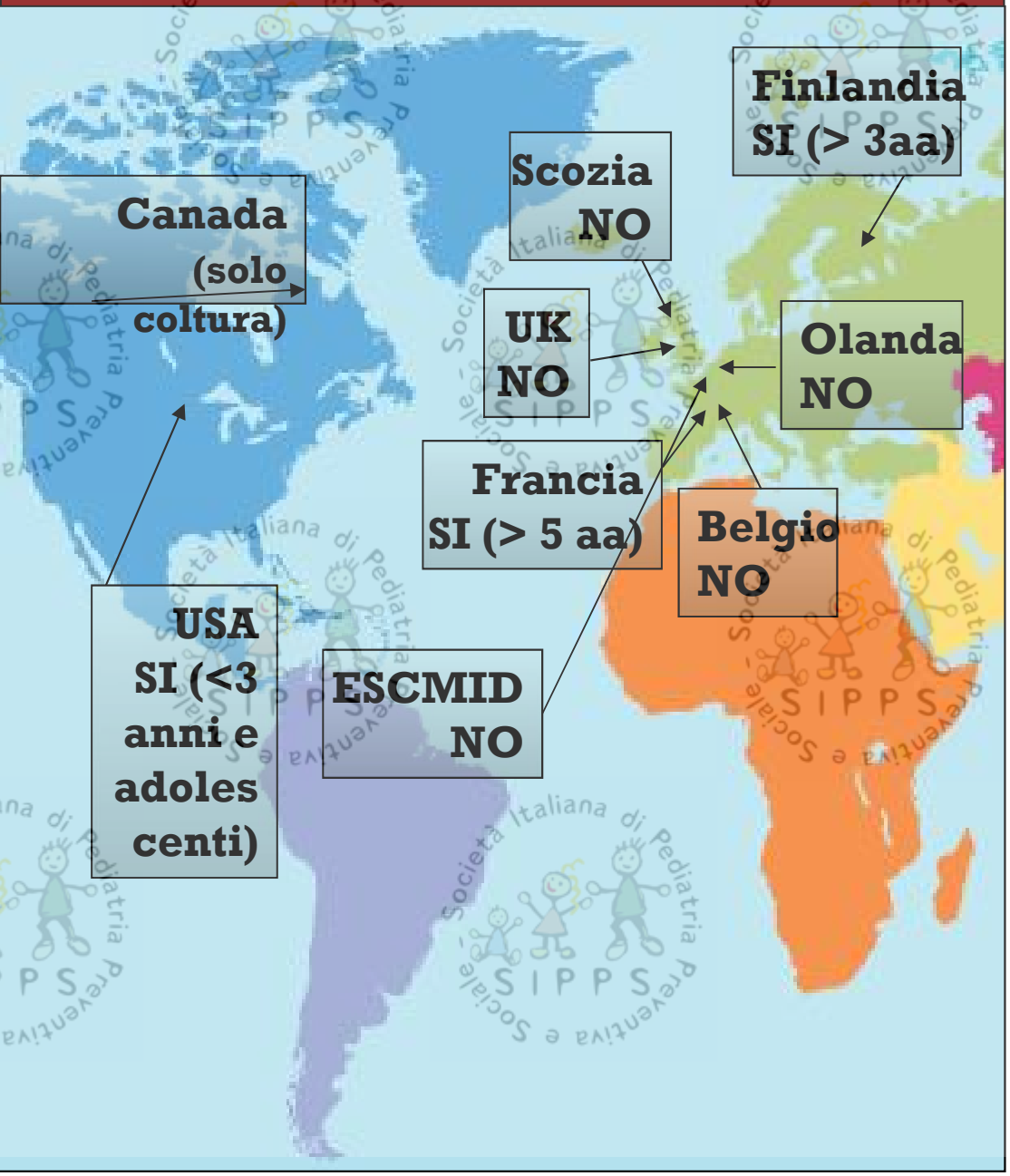
Committed to the attainment of optimal physical, mental, and social health and well-being for all infants, children, adolescents, and young adults

La decisione se effettuare il test rapido o esame colturale dovrebbe basarsi su:

- **Età (> 3 anni)**
- **Segni e sintomi suggestivi di infezione da SBEGA: esordio improvviso, essudato faringeo, dolore alla deglutizione, tumefazione linfonodi cervicali**
- **Se segni suggestivi di infezione virale come corizza, congiuntivite, rinite, stomatite anteriore lesioni ulcerative discrete, diarrea non effettuare il test/esame colturale**
- **Stagionalità, Epidemiologia**



linee guida: effettuare coltura se test rapido è negativo?



Medicines and Healthcare Products Regulatory Agency

		SPECIFICITA (%)	SENSIBILITA (%)
Respirastick	Orion	96	55
Card OS	Pacific Biot	99	75
Tandem	Hybritech	98	78
Directigen 1,2,3	Becton	100	78
Test Pack Strep	Abbott	100	79
Direct Str EIA	Roche	63	79
Reveal	Wellcome	83	82
Quickvue inline	Quidel	100	87
Visuwell	Dynatech l	93	88
Signify StrepA	Abbott	97	88
Strep A OIA Max	Biostar	93	89
Culturette B.	Marion ScC	99	91
Osom U.Str.A	Genzyme	98	93
Osom StrA test	Wyntek D	98	95
Test Pack Plus	Abbott	99	96
Strep A OIA	Biostar	99	99

PEDIATRICS
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Diagnosis and Management of Pharyngitis in a Pediatric Population Based on Cost-Effectiveness and Projected Health Outcomes

Robert S. Van Howe and Louis P. Kusnier, II

Pediatrics 2006;117;609-619

Estimates and 95% CIs for the Cost per Patient and the Health Lost per Patient for the Approaches to Diagnosing and Treating Pharyngitis Among Children

Approach	Cost, 2003 US Dollars (95% CI)	Health Lost, QALDs (95% CI)
Treat all	68.76 (44.20–93.33)	0.2943 (0.1886–0.4001)
Treat none	101.15 (57.33–144.97)	0.0793 (0.0436–0.1150)
Rapid testing	52.74 (34.72–70.76)	0.0981 (0.0664–0.1298)
Culture all	60.60 (35.38–85.81)	0.1002 (0.0710–0.1294)
Rapid testing then culture	58.98 (37.27–80.69)	0.0994 (0.0659–0.1329)
Clinical scoring	52.59 (33.95–71.23)	0.1310 (0.0896–0.1725)

3°

- Nel caso sia effettuato un test colturale: non richiedere antibiogramma

linee guida dell'Istituto Superiore di Sanità per la gestione del bambino con faringotonsillite

coordinatori: M de Martino, N Mansi, N Principi, A Serra

Chiappini E et al. Clin Ther 2012;34:1442-1458

RACCOMANDAZIONE N° 24

la terapia di scelta per la faringotonsillite streptococcica è rappresentata dalla penicillina V o, in mancanza di questa, dall'amoxicillina somministrata a 50 mg/kg/die in 2 o 3 dosi giornaliere per via orale per 10 giorni (I-A)

RACCOMANDAZIONE N° 27

in considerazione dell'elevata prevalenza di resistenza di *Streptococcus pyogenes* ai macrolidi, l'utilizzo di questa classe di farmaci va limitato ai soggetti con dimostrata allergia IgE-mediata ai betalattamici, se possibile dopo aver dimostrato la sensibilità dello streptococco a questa classe di antibiotici (II-C)

THE COCHRANE COLLABORATION

Different antibiotics treatments for group A streptococcal pharyngitis

Cochrane Database Syst Rev 2013;4:CD004406

Authors' conclusions

Evidence is insufficient to show clinically meaningful differences between antibiotics for GABHS tonsillopharyngitis. Limited evidence in adults suggests cephalosporins are more effective than penicillin for relapse, but the NNTB is high. Limited evidence in children suggests carbacephem is more effective for symptom resolution. Data on complications are too scarce to draw conclusions. Based on these results and considering the low cost and absence of resistance, penicillin can still be recommended as first choice.

4°

- Non accorciare la terapia antibiotica

Short versus standard duration antibiotic treatment for acute streptococcal pharyngitis in children

Cochrane Database Syst Rev 2009;21:CD004872
Cochrabe Database Syst Rev 2012;8:CD004872

20 studi inclusi
13102 pazienti con FA da SBEGA

Trattamento breve (3-6 giorni) con qualsiasi antibiotico vs. penicillina V orale per 10 giorni

- **Ridotta durata della febbre** **-0.30 giorni (IC95%: -0.45 to -0.14)**
- **Ridotta durata faringodinia** **-0.50 giorni (IC95%: -0.78 to -0.22)**
- **Ridotto rischio di fallimento a breve termine** **OR: 0.80 (IC95%:0.67-0.94)**
- **Rischio di ricorrenza a lungo termine** **OR : 1.06 (IC95%:0.92-1.22)**

che non persiste eliminando gli studi con azitromicina a basso dosaggio (10 mg/kg)

Annals of Emergency Medicine
Volume 63, Issue 6, June 2014, Pages 690–691

Pediatrics

Are Short-Term Late-Generation Antibiotics Equivalent to Standard Penicillin Therapy in the Resolution of Symptoms in Acute Strep Throat in Children?

Anand Swaminathan, MD, MPH (EBEM Commentator)
Jeffrey Hom, MD, MPH (EBEM Commentator)

Altamimi S.Coch rane Database Syst Rev. 2012:CD004872.
Short-term late-generation antibiotics versus longer term penicillin for acute streptococcal pharyngitis in children.

The authors identified 20 original studies meeting inclusion criteria, though substantial heterogeneity was apparent across studies.
Despite 20 included studies of 13,102 cases of group A β-hemolytic streptococcus throat infections, **fever resolution was recorded in only 2 studies (n=487) and sore throat resolution in just 1 (n=308).**
Both outcomes were reduced in the short treatment group

Table 1.
Short (3 days) versus standard (7 days) antibiotic course.

Symptom	Number of Subjects	Difference in Days (95% CI)
Fever	487	−0.30 (−0.5 to −0.1)
Sore throat	308	−0.50 (−0.8 to −0.2)

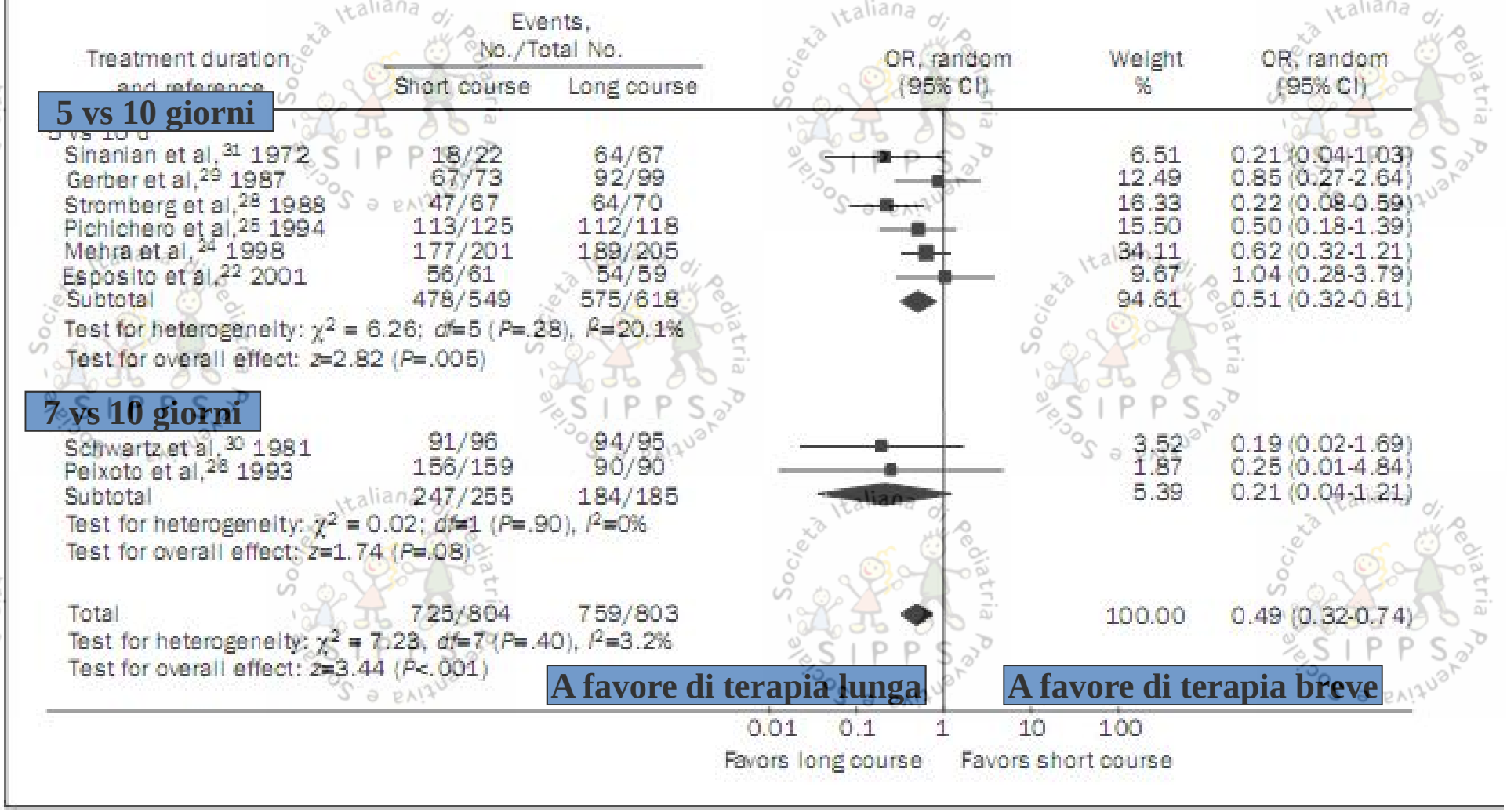
CI, Confidence interval.

Mayo Clinic Proceedings

Effectiveness and safety of short-course vs long-course antibiotic therapy for group a beta hemolytic streptococcal tonsillopharyngitis: a meta-analysis of randomized trials

Falagas ME. Mayo Clin Proc 2008;82:880-89

Ogni antibiotico comparato verso se stesso, con diversa durata del trattamento



5°

- Non somministrare steroidi

NCBI Resources How To

PubMed.gov
US National Library of Medicine
National Institutes of Health

PubMed Search

Advanced

Pediatr Emerg Care. 2012 Aug;28(8):807-9. doi: 10.1097/PEC.0b013e31826288e5.

Adverse effects of steroid therapy in children with pharyngitis with unsuspected malignancy.

Sadowitz PD[1], Page NE, Crowley K.

Author information

Abstract

Pharyngitis is a common clinical complaint for children and accounts for 3.1% of all visits to selected ambulatory care settings. Most children with pharyngitis have benign, self-limited disease with infrequent complications such as peritonsillar abscess, mastoiditis, or lymphadenitis. Recent studies have touted the benefits of steroids in the treatment of children with pharyngitis for pain control. These studies do not address the potential life-threatening complication of steroids in patients with pharyngitis or lymphadenopathy in the setting of undiagnosed acute lymphocytic leukemia (ALL) or lymphoma. We report 4 cases of children treated with steroids for pharyngitis or adenitis that subsequently were diagnosed with ALL or lymphoma. If steroids are to be used in children with pharyngitis or adenitis, the following recommendations should be strongly considered: Careful history and physical examination should be obtained. Presence of hepatosplenomegaly or lymphadenopathy outside the cervical region should raise suspicions regarding an underlying malignancy. Normal results of complete blood cell count in the setting of clear cut pharyngitis with exudates and a lack of significant adenopathy essentially rules out the diagnosis of ALL. Because traditional analgesics are available, which do not affect the curability of ALL or lymphoma, the routine use of steroids in pharyngitis in children should be considered only in rare circumstances.

PMID: 22863823 [PubMed - indexed for MEDLINE]

	***Choosing wisely* per la gestione del bambino con faringotonsillite**
1	***Non richiedere TAS o ANTI-DNAsi.*** Queste indagini sono utili per la diagnosi di complicanze non suppurative, immunomediate, post-streptococciche come la malattia reumatica, che si verificano a distanza di settimane dall'infezione acuta da SBEGA, ma non sono di alcuna utilità al momento della faringotonsillite acuta
2	**Non somministrare terapia antibiotica se prima non sia stata eseguita conferma microbiologica di infezione da SBEGA con test rapido o esame colturale** La maggior parte delle faringotonsilliti sono di origine virale e non richiedono terapia antibiotica. Clinicamente non è possibile distinguere le forme virali dalle altre. E', pertanto, necessaria un'indagine microbiologica per selezionare i bambini con infezione batterica, che sono gli unici che necessitano di terapia antibiotica
3	**Nel caso nel quale venga effettuato un esame colturale l'antibiogramma non deve essere eseguito** Ad oggi SBEGA è risultato in Italia sensibile ad amoxicillina e l'esame di sensibilità agli antibiotici incrementa i costi senza fornire benefici in termini di scelta di terapia antibiotica
4	**Non accorciare la terapia antibiotica. La terapia di prima scelta rimane amoxicillina per 10 giorni** In base ai dati della letteratura soltanto una terapia di 10 giorni è associata con sicurezza ad una effettiva riduzione del rischio di malattia reumatica che si aggira intorno al 70%
5	**Non somministrare steroidi.** La somministrazione di steroidi, mascherando alcuni segni o sintomi, potrebbe portare ad un ritardo nella diagnosi di patologie che, seppur rare, possono essere molto gravi quali linfomi ed altre neoplasie


grazie
thank you
tânan
xièxiè
obrigado
falemindeiri
merci
hvala
takk
tak
gracias
danke
arigatô
shukran
kiitos
dankiu
merci