

MEETING ABSTRACT

Open Access

Which treatment for upper respiratory tract infections?

Pietro Ferrara^{1,2*}, Costanza Cutrona², Annamaria Sbordone²

From 71st Congress of the Italian Society of Pediatrics. Joint National Meeting SIP, SIMGePeD, Study Group on Pediatric Ultrasound, SUP Study Group on Hypertension Rome, Italy. 4-6 June 2015

Upper Respiratory Tract Infections (URTIs) include rhinosinusitis, acute otitis media (AOM), pharyngotonsillitis and laryngitis [1]. Viruses are responsible for the great majority of URTIs therefore antimicrobial treatment is not always required [2]. Paracetamol (7-15 mg/kg/dose) and ibuprofen (4-10 mg/kg/dose) are considered as the standard analgesics [3].

Regarding rhinosinusitis, clinicians should suspect a bacterial etiology when a child presents with persistent, worsening or severe illness. *S. pneumoniae*, *H. influenzae* and *M. catarrhalis* are the most common isolated bacteria. Amoxicillin (50 mg/kg/day) alone or with clavulanate is the first line antibiotic. Ceftriaxone (50 mg/kg/day) should be given to children who cannot take oral medications. Duration of the treatment varies from 10 to 28 days. The antibiotic may be changed if the symptoms get worse or do not improve within 72 hours (cefixime 8 mg/kg/day) [4-6].

AOM is an inflammatory disease of the middle ear involving the tympanic cavity frequently caused by *S. pneumoniae*, *H. influenzae* and *M. catarrhalis*. Diagnostic criteria for AOM are:

- moderate to severe bulging of TM or new onset of otorrhea not due to acute otitis externa;
- mild bulging of the TM and recent onset of ear-ache or intense erythema of the TM.

Pediatricians should prescribe antibiotics in children aged <6 months with both severe and moderate presentations, in children aged between 6 and 24 months with severe presentation in both unilateral and bilateral AOM or in those with moderate presentation in bilateral AOM.

Children aged > 24 months need antibiotic therapy only when the presentation is severe [7,8]. Amoxicillin (50 mg/kg/day) alone or with clavulanate is the first choice in moderate and severe presentation respectively. Alternative initial antibiotics include cefaclor (40-50 mg/kg/day) and cefuroxime-axetil (30 mg/kg/day) or cefpodoximproxetil (8 mg/kg/day) respectively. Ceftriaxone (50 mg/kg/day) can be given to children who cannot take oral medications or when the symptoms do not improve within 72 hours [9]. The duration of the treatment may vary from 5 to 10 days [8].

Most pharyngitis episodes are caused by viruses. Antibiotic therapy is recommended in every child with microbiologically documented *group A β-hemolytic streptococcus* pharyngitis (37%). The first-line treatment is amoxicillin (50 mg/kg/day for 10 days). In non-compliant cases, cefaclor (40 mg/kg/day) or cefuroxime-axetil (20-30 mg/kg/day) may be administered [10].

Epiglottitis is a supraglottic laryngitis. It may be caused by *S. pneumoniae*, *S. aureus*, *β-hemolytic streptococcus* and *H. influenzae*. The priority is airway management followed by antibiotic (ceftriaxone 50-75 mg/kg/day) treatment and steroids [11].

Authors' details

¹Institute of Pediatrics, Catholic University of Sacred Heart, Rome, Italy.

²Campus Bio-Medico University, Rome, Italy.

Published: 30 September 2015

References

1. Zeng L, Zhang L: Systematic review of evidence-based guidelines on medication therapy for upper respiratory tract infection in children with AGREE instrument. *PLoS One* 2014, **9**:e87711.
2. Hersh AL, Jackson MA, Hicks LA: Principles of judicious antibiotic prescribing for upper respiratory tract infections in pediatrics. *Pediatrics* 2013, **132**:1146-1154.

* Correspondence: pferrara@rm.unicatt.it

¹Institute of Pediatrics, Catholic University of Sacred Heart, Rome, Italy
Full list of author information is available at the end of the article

3. Perrott DA, Piira T, Goodenough B, Champion GD: **Efficacy and safety of acetaminophen vs. ibuprofen for treating children's pain or fever.** *Arch Pediatr Adolesc Med* 2004, **158**:521-526.
4. Hauk L: **AAP releases guideline on diagnosis and management of acute bacterial sinusitis in children one to 18 years of age.** *Am Fam Physician* 2014, **89**:676-681.
5. Wald ER, Applegate KE, Bordley C, Darrow DH, Glode MP, Marcy SM, et al: **Clinical practice guideline for the diagnosis and management of acute bacterial sinusitis in children aged 1 to 18 years.** *Pediatrics* 2013, **132**:e262-280.
6. Maglietta V: **Diagnosi e terapia pediatrica pratica.** Rozzano (MI): Casa Editrice Ambrosiana, 10 2010.
7. Lieberthal AS, Carroll AE, Chonmaitree T: **The diagnosis and management of acute otitis media.** *Pediatrics* 2013, **131**:e964-999.
8. Thomas JP, Berner R, Zahnert T: **Acute otitis media—a structured approach.** *Dtsch Arztebl Int* 2014, **111**:151-159.
9. Marchisio P, Principi N, Bellussi L: **Otite media acuta: dalla diagnosi alla prevenzione. Linee guida della società italiana di Pediatria.** 2010, Accessed at <http://www.sip.it/documenti/otite.pdf>.
10. Chiappini E, Principi N, Mansi N, Serra A, De Masi S, Camaioni A, et al: **Italian Panel on the Management of Pharyngitis in Children. Management of acute pharyngitis in children: summary of the Italian National Institute of Health guidelines.** *Clin Ther* 2012, **34**:1442-1458.
11. Principi N, Marchisio PG, Esposito S, Pignataro L, Torretta S: **Otorinolaringoiatria.** In *Pediatria generale e specialistica.* 1 edition. Rozzano (MI): Casa Editrice Ambrosiana;Principi N, Rubino A, Vierucci A 2012:479-480.

doi:10.1186/1824-7288-41-S2-A31

Cite this article as: Ferrara et al.: Which treatment for upper respiratory tract infections? *Italian Journal of Pediatrics* 2015 **41**(Suppl 2):A31.

**Submit your next manuscript to BioMed Central
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit

