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ABSTRACT

Objective: This Evidence-Based Clinical Practice Guideline (CPG) aims to improve clinical decision making of general practitioners and specialists in the treatment of acute tonsillitis and adenoid hypertrophy. Support clinicians in clinical decision making for medical treatment with target in the patophysiological process and evidence based efficacy, safety and tolerability.

Method: Pan-American association of Otorhinolaryngology and Head and Neck Surgery in partnership with Ibero American Agency for Development and Assessment of Health Technologies developed a Clinical Practice Guideline on Medical management of Acute tonsillitis and Adenoid hypertrophy in children. This document provides punctual evidence-based recommendations for Primary care Physicians and Otolaryngologists on the medical management of these conditions and complies with Evidence Based Medicine fundamentals and with well validated Guidelines methodology as recommended by the National Institute for Clinical Excellence, the National Institutes of Health of the United States of America and The Scottish Intercollegiate Guidelines Network.

Results: This document provides from A Grade to D Grade of clinical recommendations for treatment of these conditions. Guideline Development Group make recommendations based on well-designed RCTs and systematic reviews. Some clinical questions could not be answered by high quality research and for these questions a Panel Delphi was conducted to provide clinical guidance. Overall there is a need for well-designed RCTs and economic assessments to answer most of the gaps of knowledge for the treatment of acute tonsillitis and adenoid hypertrophy.

Conclusion: This Clinical Practice Guideline provide guidance for the medical treatment of children with acute tonsillitis and adenoid hypertrophy.

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Pan American Association of Otorhinolaryngology and Head and Neck Surgery
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Pan-American Clinical Practice Guideline for Medical Management of Acute Tonsillitis and Adenoids Hypertrophy

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INTRODUCTION

Group A beta-hemolytic streptococcal Acute Tonsillitis and Adenoids Hypertrophy are both significant health problems in pediatric population, which results in a large financial and social burden in the continent. It exists wide variations in the clinical decision making process regarding medical management of these conditions between primary care and specialists. This heterogeneity on treatments is a barrier to reach better health care outcomes. The last decade has seen the development of a limited number of guidelines and consensus documents on the epidemiology, diagnosis and treatment of these conditions. There is not a Regional Clinical Practice Guideline published until now.

Hayward stated that “Clinical Practice Guidelines (CPGs) attempt to bridge the gap between producers and consumers of health care research. Good guidelines start with a specific clinical question, articulate relevant issues, seek and synthesize sound evidence, assign values to outcomes, generate recommendations and try to influence what clinicians do in the hope that reduced practice variation, lower costs and improved health outcomes will result.”

Pan-American association of Otorhinolaryngology and Head and Neck Surgery in collaboration with Ibero American Agency for Development and Assessment of Health Technologies developed this Clinical Practice Guideline on Medical management of Acute Tonsillitis and Adenoids Hypertrophy in children. This Guideline will provide punctual evidence-based recommendations for Primary care Physicians and Otolaryngologists on the medical management of these conditions. It also complies with Evidence Based Medicine fundamentals and with well validated Guidelines methodology.

METHODS AND MATERIALS

An interdisciplinary group of well recognized experts representative of the continent and evidence-based methodologists worked in the development. First of all a scope document was produced to define the main topic to be covered by the guideline and to identify key aspects of care to be included. Structured research clinical questions were established by clinical experts.

Methodologists conducted an exhaustive literature search strategy to identify clinical practice guidelines, systematic reviews and randomized, controlled trials. Electronic databases were accessed and include The Cochrane Library, Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects, Medline, Embase, Cinahl, Health Economic and Evaluations Database, LILACS, ARTEMISA and SCIELO. Searching High quality clinical guidelines following databases were consulted Guidelines International Network, National Institute of Health and Clinical Excellence, National Library for Health, National Institutes of Health Consensus Development Program, New Zealand Guidelines Development Group, Scottish Intercollegiate Guideline Network, National Guideline Clearing House.

RESULTS

Intervention	Grade	Level	Recommendation synthesis
Systemic Antibiotics in GABHS	A	1++	High quality evidence exists to support the use of systemic antibiotics treatment with improvement in symptoms and faster cure rates for group A streptococcal pharyngitis. However, it must be considered the high rate of spontaneous resolution in non-complicated acute group A streptococcal pharyngitis. Using antibiotics, throat soreness and fever were reduced by about half. Antibiotics compared to placebo also reduce Non-suppurative and suppurative complications. Penicillin is the first-line therapy. That relates to its safety, efficacy and narrow microbiologic spectrum. Patients with penicillin allergy may receive macrolide antibiotics as Clarithromycin, Azithromycin or Erythromycin. Second-line alternatives that have shown at least the same efficacy and safety profile in non-inferiority good quality randomized, controlled trials are macrolides (Clarithromycin, Azithromycin or Erythromycin), Cephalosporins (Cephalexin, Cefadroxil, Cefaclor, Cefotiam, Cefdinir, Cefuroxime, Cefpodoxime and Cefixime) and Carbacephem (Loracarbef and carbacephem). There are not Good Quality RCT's to assess efficacy and safety of any drug belonging to Aminoglycosides, Glycopeptides, Lincosamides, Monobactams, Quinolones or Tetracyclines classes. We don't recommend the use of any drug of these categories until efficacy and safety has been demonstrated.
Systemic Antibiotics Duration of Treatment	A	1++	A clear overall benefit for long-course (10 days) in comparison to short-course (5-7 days) of Antibiotics in group A streptococcal pharyngitis has been demonstrated.
Systemic Non-Steroidal Anti-inflammatory (NSAIDS)	A	4 – 1+	We suggest the use of Systemic Non-Steroidal Anti-inflammatory as first-line therapy. Paracetamol and ibuprofen should be used as first-line alternatives for pain and fever management. Aspirin should be avoided in children under 16 years because the high risk of complications of aspirin therapy, including Reye's syndrome in children, and other adverse events.
Systemic Steroids	A	1+	Not first-line therapy. However, in moderate to severe cases, a short-term course of Systemic Glucocorticoids as adjunctive therapy to antibacterial regime could be effective for reducing throat swelling and achieve relief of pain. Adverse effects should be recognized and long-term courses avoided. Injection of a depot glucocorticoid in children must be avoided.
Local Anti-infective Agents	A	1+	Not first-line therapy. However, in moderate to severe cases, we suggest that benefits could be greater than risks and could be used in well-selected patients.
Local Anti-inflammatory Agents	A	1+	We recommend the use of local anti-inflammatory agents like topic benzydamine hydrochloride, as first-line of therapy in moderate to severe cases. Benefits seem to be greater than risks.

Table 1. Level of evidence of different interventions in Group A beta-hemolytic streptococci Acute Tonsillitis.

RESULTS

Intervention	Grade	Level	Recommendation synthesis
Short-Term Systemic Antibiotics	A	1+	We do not suggest the use of Systemic Antibiotics as first-line therapy. However, a short course (30 days) of Amoxicillin-Clavulanic acid seems to reduce the need for surgery in the short and long term in selected patients.
Topic Antibiotics	D	4	We suggest that benefits of treatment with Topical Antibiotics are lower than risks and should not be used as first-line therapy.
Systemic Non-Steroidal Anti-inflammatory (NSAIDS)	D	4	Systemic Non-Steroidal Anti-inflammatory should not be used for the treatment of Adenoids Hypertrophy as first-line therapy. We suggest that benefits could be lower than risks. Precautions and adverse effects should be recognized.
Systemic Steroids	D	4	We suggest that Systemic Glucocorticoids should not be used for the treatment of Adenoids Hypertrophy as first-line therapy. However, in moderate to severe cases, a short-term course of Systemic Glucocorticoids could be effective for reducing inflammation and relief symptoms like congestion, snore and mouth breathing. We suggest that benefits could be greater than risks and could be used in well-selected patients. Adverse effects should be recognized and long-term courses avoided. Injection of a depot glucocorticoid in children must be avoided.
Intranasal Steroids	A	1++	We recommend the use of Intranasal Steroids in Adenoids Hypertrophy as first line of therapy to achieve symptoms improvement and reduce adenoids size. A short course of Intranasal steroids (8-12 weeks) is suggested. Adverse Events rate is comparable between Intranasal Steroids therapy and placebo. Usually are mild to moderate. Bioavailability differences between intranasal Steroids should be considered in order to improve treatment safety. Intranasal Steroids with lower bioavailabilities are preferred.
Bacterial Lysate Preparations	D	4	We suggest that the treatment with Bacterial Lysate Preparations should not be routinely used. However in selected patients benefits could be greater than risks and reduction of recurrences of exacerbations could be achieved.
Systemic Decongestants	D	4	We suggest that Systemic Decongestants should not be used for the treatment of Adenoids Hypertrophy. We suggest that benefits could be lower than risks.
Nasal Decongestants	D	4	We suggest that Nasal Decongestants should not be used for the treatment of Adenoids Hypertrophy.
Antihistamines	A	1++	We suggest that Antihistamines should be used only in patients with Adenoids Hypertrophy and concomitant allergic rhinitis. Antihistamines should not be used as first-line therapy in patients with absence of allergic rhinitis.
Mucolytics	D	4	Not be used as first-line therapy in patients with Adenoids Hypertrophy. However, guaifenesin and acetylcysteine could add benefits when thinning of mucous is needed and they could be greater than risks in well-selected patients.
Nasal Saline Irrigations	A	1++	Not be routinely used. However benefits seems to be greater than risks. Topical saline could be included as a treatment adjunct for managing the symptoms.
Leukotriene Modifiers	A	1++	Not first-line therapy in patients with absence of allergic rhinitis and/or asthma. However, if congestion is significant and not responding to steroids or where allergy is highly suspected, benefits could be greater than risks.

Table 2. Level of evidence of different interventions in Adenoids Hypertrophy (AH)

MATERIALS AND METHODS

Quality was assessed according Cochrane Manual for Systematic reviews using well-validated tools like AGREE, AMSTAR, PRISMA, CONSORT, TREND and STROBE and low quality studies were discarded. Clinical recommendations were submitted by panel Delphi formal consensus technique and validated by clinical experts.

Scottish Intercollegiate Guideline Network classification was used in this guideline. Each guideline recommendation has been given a “strength of evidence” rating, which is designated by the letter A, B, C, or D immediately before the recommendation. The strength of evidence rating indicates the amount, general quality, and clinical applicability (to the guideline topic) of scientific evidence the panel used as the basis for that specific guideline recommendation.

CONCLUSIONS

Pan-American association of Otorhinolaryngology and Head and Neck Surgery has the commitment to produce Evidence-Based guidance that aims to improve clinical decision making of general practitioners and specialists in treatment of related diseases.

Regarding Group A beta-hemolytic streptococci Acute Tonsillitis high quality evidence support the use of Systemic Antibiotics for improve symptoms relief and bacteriological resolution. They also prevent related disease complications in children. Ten days schemes reach better bacteriological resolution and an overall benefit compared to 5-7 days schemes. Non-steroidal Anti-inflammatory drugs are first-line therapy too. It is important to avoid Aspirin in children because serious potential side effects. For pain and sore management in moderate to severe pharyngitis, we recommend the use of local anti-inflammatory agents like topic benzydamine hydrochloride, Benefits seem to be greater than risks.

Most of the different drug classes that in the daily clinical practice are used for treatment of Adenoids Hypertrophy lack of good quality evidence. Intranasal Steroids are first-line therapy to achieve decrease of size and symptoms improvement.

This Clinical Practice Guideline for medical management of Group A beta-hemolytic streptococci Acute Tonsillitis and Adenoids Hypertrophy supports clinicians in their clinical decisions with target in the patophysiological process and evidence based efficacy, safety and tolerability. Improved quality of life and health outcomes are main goal of this document.

More High Quality Randomized Controlled Trials are needed in many areas to evaluate the place in therapy of many drug classes for the management of these clinical entities.