

Täiskasvanute astma käsitus esmatasandil

Tõendusmaterjali kokkuvõte

Kliiniline küsimus nr 14

Kliinilise küsimuse tekst: Kas astma diagnoosiga patsientidele, kellel on äge (ülemiste) hingamisteede infektsioon, tuleks kasutada antibakteriaalset ravi vs mittekasutamisega?

Kokkuvõte, sh kriitiliste tulemusnäitajate kaupa:

Astma diagnoosiga patsientidel, kellel on äge (ülemiste) hingamisteede infektsioon, tuleks antibakteriaalset ravi kasutada vaid juhul, kui tegemist on ägeda **bakteriaalse** infektsiooniga.

Kõrge kvaliteediga tõendusmaterjal (üldrahvastiku hulgas läbi viidud uuringud, nt [Kenealy 2013](#)), et ülemiste hingamisteede viirusinfektsioonide korral antibakteriaalsest ravist kasu ei ole).

On testitud ka hüpoteesi, kas makroliidid võiksid olla tõhusad astma kontrollimisel, hüpotees ei ole leidnud kinnitust.

Ravijuhendid

Kokkuvõte ravijuhendites leiduvatest soovitustest: Ravijuhendites, mis küsimust käsitlesid, ei soovitata antibiootikume rutiinselt kõigile ägeda ülemiste hingamisteede infektsiooniga patsientidele määrata, v. a. selged ägeda bakteriaalse infektsiooniga patsiendid.

Viited

Kokkuvõte (abstrakt või kokkuvõtlikum info)	Viide kirjandusallikale
<p>Guideline for the management of acute asthma in adults: 2013 update.</p> <p>Source</p> <p>Department of Pulmonology and Critical Care, University of KwaZulu-Natal, Durban, South Africa. umeshlalloo@gmail.com</p> <p>Abstract</p> <p>Acute asthma attacks (asthma exacerbations) are increasing episodes of shortness of breath, cough, wheezing or chest tightness associated with a decrease in airflow that can be quantified and monitored by measurement of lung function (peak expiratory flow (PEF) or forced expiratory volume in the 1st second) and requiring emergency room treatment or admission to hospital for acute asthma and/or systemic glucocorticosteroids for management. The goals of treatment are to relieve hypoxaemia and airflow obstruction as quickly as possible, restore lung function, and provide a suitable plan to avoid relapse. Severe exacerbations are potentially life-threatening and their treatment requires baseline assessment of severity, close monitoring, and frequent reassessment using objective measures of lung function (PEF) and oxygen saturation. Patients at high risk of asthma-related death require particular attention. First-line therapy consists of oxygen supplementation,</p>	<p>Lalloo UG, Ainslie GM, Abdool-Gaffar MS, Awotedu AA, Feldman C, Greenblatt M, Irusen EM, Mash R, Naidoo SS, O'Brien J, Otto W, Richards GA, Wong ML; South African Thoracic Society.</p>

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<p>repeated administration of inhaled short-acting bronchodilators (beta-2-agonists and ipratropium bromide), and early systemic glucocorticosteroids. Intravenous magnesium sulphate and aminophylline are second- and third-line treatment strategies, respectively, for poorly responding patients. Intensive care is indicated for severe asthma that is not responsive to first-line treatment. <u>Antibiotics are only indicated when there are definite features of bacterial infection.</u> Factors that precipitated the acute asthma episode should be identified and preventive measures implemented. Acute asthma is preventable with optimal control of chronic asthma.</p>	
<p>BACKGROUND:</p> <p>Antibiotics are often prescribed to patients who are admitted to hospital with acute asthma. Their exacerbation is often precipitated by a viral upper respiratory infection (URTI), but in some instances antibiotics are prescribed in spite of questionable efficacy. A lack of strong evidence either to support or to refute the use of treatments in acute asthma leaves room for discussion and debate as to how effective antibiotics are in an acute setting. This review assesses what evidence is available.</p> <p>OBJECTIVES:</p> <p>To determine the efficacy of antibiotics prescribed in the treatment of acute asthma</p> <p>SEARCH STRATEGY:</p> <p>Electronic databases (MEDLINE, EMBASE and CINAHL) were searched to identify all possible randomised control trials.</p> <p>SELECTION CRITERIA:</p> <p>Only RCTs or quasi RCTs were eligible for inclusion. Studies were included if patients were treated for acute asthma in the ED or its equivalent with antibiotics or placebo. Two reviewers independently assessed articles for potential relevance, final inclusion, and methodological quality.</p> <p>MAIN RESULTS:</p> <p>From 128 potential studies, two trials were identified for inclusion in the review. Both trials reported numbers of exacerbations and not patient numbers due to re admissions over the course of the trials. The total number of patients in this review was 97, but values were recorded for 115 exacerbations.</p> <p>REVIEWER'S CONCLUSIONS:</p> <p><u>The role of antibiotics in the treatment of acute asthma is difficult to assess from the current literature.</u> <u>Recommendations regarding antibiotic use in acute asthma will remain consensus driven until more research is conducted which includes larger numbers of patients.</u></p>	<p>Cochrane Database Syst Rev. 2001;(3):CD002741.</p> <p>Antibiotics for acute asthma.</p> <p>Graham V1, Lasserson T, Rowe BH.</p> <p>http://www.ncbi.nlm.nih.gov/pubmed/11687022</p>
<p>Evidence-based asthma management.</p>	<p>Kallstrom TJ.</p>

<p>Source Respiratory Care Services, Fairview Hospital, Cleveland OH 44111, USA. tom.kallstrom@fairviewhospital.org.</p> <p>Abstract In 2002 the National Asthma Education and Prevention Program published evidence-based guidelines for the diagnosis and management of asthma, but there are some unresolved asthma-management issues that need further research. For asthmatic children inhaled corticosteroids are more beneficial than as-needed use of beta(2) agonists, long-acting beta(2) agonists, theophylline, cromolyn sodium, nedocromil, or any combination of those. Leukotriene modifiers are an alternative but not a preferred treatment; they should be considered if the medication needs to be administered orally rather than via inhalation. Cromolyn sodium and nedocromil are effective long-term asthma-control medications, but they are not as effective as inhaled corticosteroids. There is insufficient evidence to determine whether cromolyn benefits maintenance of childhood asthma. Cromolyn sodium and nedocromil are alternatives, but not preferred treatments for mild persistent asthma. Cromolyn may be useful as a preventive therapy prior to exertion or unavoidable exposure to allergens. Regular inhalation of corticosteroids controls asthma significantly better than as-needed beta(2) agonists. No studies have examined the long-term impact of regular inhaled corticosteroids on lung function in children <or= 5 years old. As monotherapy, inhaled corticosteroids are more effective than long-acting beta(2) agonists. The asthma-control benefit of inhaled corticosteroids decidedly outweighs the risks from inhaled corticosteroids. There is no high-level evidence that low-to-medium-dose inhaled corticosteroids have ocular toxicity or important effects on hypothalamic-pituitary-adrenal function in children. Antibiotic therapy has no role in asthma management unless there is a bacterial comorbidity, but further research is needed on the relationship between sinusitis and asthma exacerbation. The asthma care plan should include a written asthma action plan for the patient, but there is inadequate evidence as to whether the asthma action plan should be based on symptoms or on peak flow monitoring. There is low-level evidence that helium-oxygen mixture (heliox) may be of benefit in the first hour of an acute asthma attack but less advantageous after that first hour. Metered-dose inhalers are no more or less effective, overall, than other aerosol-delivery devices for the delivery of beta(2) agonists or inhaled corticosteroids, so the least expensive delivery method should be chosen.</p>	
<p>Azithromycin for prevention of exacerbations in severe asthma (AZISAST): a multicentre randomised double-blind placebo-controlled trial.</p> <p>Source Department of Respiratory Medicine, Ghent University Hospital, Ghent, Belgium. guy.brusselle@ugent.be</p> <p>Abstract BACKGROUND: Patients with severe asthma are at increased risk of exacerbations and lower respiratory tract infections (LRTI). Severe asthma is heterogeneous, encompassing eosinophilic and non-eosinophilic (mainly neutrophilic) phenotypes. Patients with neutrophilic airway diseases may benefit from macrolides.</p> <p>METHODS: We performed a randomised double-blind placebo-controlled trial in subjects with exacerbation-prone severe asthma. Subjects received low-dose azithromycin (n=55) or placebo (n=54) as add-on treatment to combination therapy of inhaled corticosteroids and long-acting β_2 agonists for 6 months. The primary outcome was the</p>	<p>Brusselle GG, Vanderstichele C, Jordens P, Deman R, Slabbynck H, Ringoet V, Verleden G, Demedts IK, Verhamme K, Delparte A, Demeyere B, Claeys G, Boelens J, Padalko E, Verschakelen J, Van Maele G, Deschepper E, Joos GF.</p> <p>http://www.ncbi.nlm.nih.gov/pubmed/23291349</p>

rate of severe exacerbations and LRTI requiring treatment with antibiotics during the 26-week treatment phase. Secondary efficacy outcomes included lung function and scores on the Asthma Control Questionnaire (ACQ) and Asthma Quality of Life Questionnaire (AQLQ).

RESULTS:

The rate of primary endpoints (PEPs) during 6 months was not significantly different between the two treatment groups: 0.75 PEPs (95% CI 0.55 to 1.01) per subject in the azithromycin group versus 0.81 PEPs (95% CI 0.61 to 1.09) in the placebo group ($p=0.682$). In a predefined subgroup analysis according to the inflammatory phenotype, azithromycin was associated with a significantly lower PEP rate than placebo in subjects with non-eosinophilic severe asthma (blood eosinophilia $\leq 200/\mu\text{l}$): 0.44 PEPs (95% CI 0.25 to 0.78) versus 1.03 PEPs (95% CI 0.72 to 1.48) ($p=0.013$). Azithromycin significantly improved the AQLQ score but there were no significant between-group differences in the ACQ score or lung function. Azithromycin was well tolerated, but was associated with increased oropharyngeal carriage of macrolide-resistant streptococci.

CONCLUSIONS:

Azithromycin did not reduce the rate of severe exacerbations and LRTI in patients with severe asthma. However, the significant reduction in the PEP rate in azithromycin-treated patients with non-eosinophilic severe asthma warrants further study.

Antibiotics for the common cold and acute purulent rhinitis.

[Kenealy T](#), [Arroll B](#).

Source

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Abstract

BACKGROUND:

It has long been believed that antibiotics have no role in the treatment of common colds yet they are often prescribed in the belief that they may prevent secondary bacterial infections.

OBJECTIVES:

To determine the efficacy of antibiotics compared with placebo for reducing general and specific nasopharyngeal symptoms of acute upper respiratory tract infections (URTIs) (common colds). To determine if antibiotics have any influence on the outcomes for acute purulent rhinitis and acute clear rhinitis lasting less than 10 days before the intervention. To determine whether there are significant adverse outcomes associated with antibiotic therapy for participants with a clinical diagnosis of acute URTI or acute purulent rhinitis.

SEARCH METHODS:

For this 2013 update we searched CENTRAL 2013, Issue 1, MEDLINE (March 2005 to February week 2, 2013), EMBASE (January 2010 to February 2013), CINAHL (2005 to February 2013), LILACS (2005 to February 2013) and Biosis Previews (2005 to February 2013).

SELECTION CRITERIA:

Randomised controlled trials (RCTs) comparing any antibiotic therapy against placebo in people with symptoms of acute upper respiratory tract infection for less than seven days, or acute purulent rhinitis less than 10 days in duration.

DATA COLLECTION AND ANALYSIS:

Both review authors independently assessed trial quality and extracted data.

MAIN RESULTS:

This updated review included 11 studies. Six studies contributed to

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one or more analyses related to the common cold, with up to 1047 participants. Five studies contributed to one or more analyses relating to purulent rhinitis, with up to 791 participants. One study contributed only to data on adverse events and one met the inclusion criteria but reported only summary statistics without providing any numerical data that could be included in the meta-analyses. Interpretation of the combined data is limited because some studies included only children, or only adults, or only males; a wide range of antibiotics were used and outcomes were measured in different ways. There was a moderate risk of bias because of unreported methods details or because an unknown number of participants were likely to have chest or sinus infections. Participants receiving antibiotics for the common cold did no better in terms of lack of cure or persistence of symptoms than those on placebo (risk ratio (RR) 0.95, 95% confidence interval (CI) 0.59 to 1.51, (random-effects)), based on a pooled analysis of six trials with a total of 1047 participants. The RR of adverse effects in the antibiotic group was 1.8, 95% CI 1.01 to 3.21, (random-effects). Adult participants had a significantly greater risk of adverse effects with antibiotics than with placebo (RR 2.62, 95% CI 1.32 to 5.18) (random-effects) while there was no greater risk in children (RR 0.91, 95% CI 0.51 to 1.63). The pooled RR for persisting acute purulent rhinitis with antibiotics compared to placebo was 0.73 (95% CI 0.47 to 1.13) (random-effects), based on four studies with 723 participants. There was an increase in adverse effects in the studies of antibiotics for acute purulent rhinitis (RR 1.46, 95% CI 1.10 to 1.94).

AUTHORS' CONCLUSIONS:

There is no evidence of benefit from antibiotics for the common cold or for persisting acute purulent rhinitis in children or adults. There is evidence that antibiotics cause significant adverse effects in adults when given for the common cold and in all ages when given for acute purulent rhinitis. Routine use of antibiotics for these conditions is not recommended.

Macrolides are antibiotics with both antimicrobial and antiinflammatory activities and thus their use in asthmatic patients could lead to reduction of the airways inflammation and therefore improvement of symptoms and pulmonary function.

OBJECTIVES:

To determine whether macrolides are effective in the management of patients with chronic asthma.

SEARCH STRATEGY:

up to May 2005.

SELECTION CRITERIA:

Randomised, controlled clinical trials involving both children and adult patients with chronic asthma treated with macrolides for more than 4 weeks, versus placebo.

MAIN RESULTS:

Seven studies recruiting a total of 416 participants met the inclusion

Cochrane Database Syst
Rev. 2005 Oct
19;(4):CD002997.

Macrolides for chronic
asthma.

Richeldi L1, Ferrara G,
Fabbri LM, Lasserson TJ,
Gibson PG.

[http://www.ncbi.nlm.nih.gov/
pubmed/16235309](http://www.ncbi.nlm.nih.gov/pubmed/16235309)

<p>criteria. The quality of reporting of study methodology was generally low. We assembled findings from studies comparing macrolide treatment for at least 4 weeks in adult and pediatric patients treated for chronic asthma. Four studies showed a positive effect on symptoms of macrolides in different types of asthmatic patients. There were limited data available for meta-analysis. There was no significant difference in FEV1 for either parallel or crossover trials. However, there were significant differences in eosinophilic inflammation and symptoms. One large parallel group trial reported significant differences in peak flow but these differences abated within six months of treatment.</p> <p>AUTHORS' CONCLUSIONS:</p> <p>Considering the small number of patients studied, there is insufficient evidence to support or to refute the use of macrolides in patients with chronic asthma. Further studies are needed in particular to clarify the potential role of macrolides in some subgroups of asthmatics such as those with evidence of chronic bacterial infection</p>	
<p>Macrolides have antimicrobial and anti-inflammatory properties that may be useful in the treatment of chronic asthma.</p> <p>METHODS:</p> <p>We performed a randomized, placebo-controlled, double-blinded effectiveness trial of 12 weekly doses of adjunctive azithromycin, with follow-up to 1 year after randomization, in adults with persistent asthma. Measurements included overall asthma symptoms, asthma quality of life (AQL), and asthma control. Eligible subjects who declined to participate in randomization were offered enrollment into a parallel open-label (OL) azithromycin treatment arm.</p> <p>RESULTS:</p> <p>Of 304 adult asthma patients screened, 97 (32%) were enrolled: 38 were randomized to azithromycin, 37 were randomized to placebo, and 22 opted in as OL subjects. OL subjects had higher rates of severe persistent asthma compared with randomized subjects (32% vs 8%, respectively; $P = .012$). At 1 year, compared with the placebo arm, subjects randomized to azithromycin were more likely to have an AQL score ≥ 1 unit increase compared with baseline, but this difference was not statistically significant (36% vs 21% for placebo; $P = .335$). Compared with placebo, OL subjects had significant improvements in overall asthma symptoms from baseline ($P = .0196$), AQL ($P = .0006$), and asthma control ($P = .0148$).</p> <p>CONCLUSIONS:</p> <p>Adults with asthma who were randomized to azithromycin did not show statistically significant improvement in asthma outcomes, although the study was underpowered to detect clinical improvement in 15% (number needed to treat = 7). Adults with severe persistent asthma who elected OL treatment documented clinical improvements in asthma symptoms, AQL, and asthma control that persisted after completion of OL azithromycin (number needed to treat = 2).</p>	<p>J Am Board Fam Med. 2012 Jul-Aug;25(4):442-59. doi: 10.3122/jabfm.2012.04.110309.</p> <p>Azithromycin for bronchial asthma in adults: an effectiveness trial.</p> <p>Hahn DL¹, Grasmick M, Hetzel S, Yale S; AZMATICS (AZithroMycin-Asthma Trial In Community Settings) Study Group.</p>
<p>BACKGROUND:</p>	<p>J Allergy Clin Immunol. 2010</p>

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<p>PCR studies have demonstrated evidence of <i>Mycoplasma pneumoniae</i> and <i>Chlamydia pneumoniae</i> in the lower airways of patients with asthma.</p> <p>OBJECTIVE:</p> <p>To test the hypothesis that clarithromycin would improve asthma control in individuals with mild-to-moderate persistent asthma that was not well controlled despite treatment with low-dose inhaled corticosteroids.</p> <p>METHODS:</p> <p>Adults with an Asthma Control Questionnaire score ≥ 1.5 after a 4-week period of treatment with fluticasone propionate were entered into a PCR-stratified randomized, controlled trial to evaluate the effect of 16 weeks of either clarithromycin or placebo, added to fluticasone, on asthma control in individuals with or without lower airway PCR evidence of <i>M. pneumoniae</i> or <i>C. pneumoniae</i>.</p> <p>RESULTS:</p> <p>A total of 92 participants were randomized. Twelve (13%) subjects demonstrated PCR evidence of <i>M. pneumoniae</i> or <i>C. pneumoniae</i> in endobronchial biopsies; 80 were PCR-negative for both organisms. In PCR-positive participants, clarithromycin yielded a 0.4 ± 0.4 unit improvement in the Asthma Control Questionnaire score, with a 0.1 ± 0.3 unit improvement in those allocated to placebo. This between-group difference of 0.3 ± 0.5 ($P = .6$) was neither clinically nor statistically significant. In PCR-negative participants, a nonsignificant between-group difference of 0.2 ± 0.2 units ($P = .3$) was observed. Clarithromycin did not improve lung function or airway inflammation but did improve airway hyperresponsiveness, increasing the methacholine PC(20) by 1.2 ± 0.5 doubling doses ($P = .02$) in the study population.</p> <p>CONCLUSION:</p> <p>Adding clarithromycin to fluticasone in adults with mild-to-moderate persistent asthma that was suboptimally controlled by low-dose inhaled corticosteroids alone did not further improve asthma control. Although there was an improvement in airway hyperresponsiveness with clarithromycin, this benefit was not accompanied by improvements in other secondary outcomes.</p>	<p>Oct;126(4):747-53. doi: 10.1016/j.jaci.2010.07.024.</p> <p>A trial of clarithromycin for the treatment of suboptimally controlled asthma.</p> <p>Sutherland ER¹, King TS, Icitovic N, Ameredes BT, Bleecker E, Boushey HA, Calhoun WJ, Castro M, Cherniack RM, Chinchilli VM, Craig TJ, Denlinger L, DiMango EA, Fahy JV, Israel E, Jarjour N, Kraft M, Lazarus SC, Lemanske RF Jr, Peters SP, Ramsdell J, Sorkness CA, Szefer SJ, Walter MJ, Wasserman SI, Wechsler ME, Chu HW, Martin RJ; National Heart, Lung and Blood Institute's Asthma Clinical Research Network.</p>
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10.02.2014 Asthma/drug therapy"[Mesh] AND "Anti-Infective Agents/therapeutic use"[Mesh] AND Randomized Controlled Trial[ptyp]

Sutherland 2010 <http://www.ncbi.nlm.nih.gov/pubmed/20920764>

1. [Azithromycin for prevention of exacerbations in severe asthma \(AZISAST\): a multicentre randomised double-blind placebo-controlled trial.](#)

Brusselle GG, Vanderstichele C, Jordens P, Deman R, Slabbynck H, Ringoet V, Verleden G, Demedts IK, Verhamme K, Delporte A, Demeyere B, Claeys G, Boelens J, Padalko E, Verschakelen J, Van Maele G, Deschepper E, Joos GF.

Thorax. 2013 Apr;68(4):322-9. doi: 10.1136/thoraxjnl-2012-202698. Epub 2013 Jan 3.

[Type text]

PMID: 23291349 [PubMed - indexed for MEDLINE]

[Related citations](#)

2. [Azithromycin for bronchial asthma in adults: an effectiveness trial.](#)

Hahn DL, Grasmick M, Hetzel S, Yale S; AZMATICS (AZithroMycin-Asthma Trial In Community Settings) Study Group.

J Am Board Fam Med. 2012 Jul-Aug;25(4):442-59. doi: 10.3122/jabfm.2012.04.110309.

PMID: 22773713 [PubMed - indexed for MEDLINE] **Free Article**

[Related citations](#)

3. [Effect of clarithromycin on acute asthma exacerbations in children: an open randomized study.](#)

Koutsoubari I, Papaevangelou V, Konstantinou GN, Makrinioti H, Xepapadaki P, Kafetzis D, Papadopoulos NG.

Pediatr Allergy Immunol. 2012 Jun;23(4):385-90. doi: 10.1111/j.1399-3038.2012.01280.x. Epub 2012 Mar 21.

PMID: 22433020 [PubMed - indexed for MEDLINE]

[Related citations](#)

4. [A trial of clarithromycin for the treatment of suboptimally controlled asthma.](#)

Sutherland ER, King TS, Icitovic N, Ameredes BT, Bleecker E, Boushey HA, Calhoun WJ, Castro M, Cherniack RM, Chinchilli VM, Craig TJ, Denlinger L, DiMango EA, Fahy JV, Israel E, Jarjour N, Kraft M, Lazarus SC, Lemanske RF Jr, Peters SP, Ramsdell J, Sorkness CA, Szeffler SJ, Walter MJ, Wasserman SI, Wechsler ME, Chu HW, Martin RJ; National Heart, Lung and Blood Institute's Asthma Clinical Research Network.

J Allergy Clin Immunol. 2010 Oct;126(4):747-53. doi: 10.1016/j.jaci.2010.07.024.

PMID: 20920764 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Related citations](#)

5. [Azithromycin or montelukast as inhaled corticosteroid-sparing agents in moderate-to-severe childhood asthma study.](#)

Strunk RC, Bacharier LB, Phillips BR, Szeffler SJ, Zeiger RS, Chinchilli VM, Martinez FD, Lemanske RF Jr, Taussig LM, Mauger DT, Morgan WJ, Sorkness CA, Paul IM, Guilbert T, Krawiec M, Covar R, Larsen G; CARE Network.

J Allergy Clin Immunol. 2008 Dec;122(6):1138-1144.e4. doi: 10.1016/j.jaci.2008.09.028. Epub 2008 Oct 25.

PMID: 18951618 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Related citations](#)

6. [Mycoplasma pneumoniae and Chlamydia pneumoniae in asthma: effect of clarithromycin.](#)

Kraft M, Cassell GH, Pak J, Martin RJ.

Chest. 2002 Jun;121(6):1782-8.

PMID: 12065339 [PubMed - indexed for MEDLINE]

[Related citations](#)