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[Intervention Review]

Antibiotics for sore throat

Anneliese Spinks[1], Paul P Glasziou[2], Chris B Del Mar[2]

[1]School of Medicine, Griffith University, Meadowbrook, Australia. [2]Centre for Research in Evidence-Based Practice (CREBP), Bond University, Gold Coast, Australia

Contact address: Anneliese Spinks, School of Medicine, Griffith University, University Drive, Meadowbrook, Queensland, 4031, Australia. anneliese.spinks@csiro.au, a.spinks@griffith.edu.au.

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ABSTRACT

Background

Sore throat is a common reason for people to present for medical care. Although it remits spontaneously, primary care doctors commonly prescribe antibiotics for it.

Objectives

To assess the benefits of antibiotics for sore throat for patients in primary care settings.

Search methods

We searched CENTRAL 2013, Issue 6, MEDLINE (January 1966 to July week 1, 2013) and EMBASE (January 1990 to July 2013).

Selection criteria

Randomised controlled trials (RCTs) or quasi-RCTs of antibiotics versus control assessing typical sore throat symptoms or complications.

Data collection and analysis

Two review authors independently screened studies for inclusion and extracted data. We resolved differences in opinion by discussion. We contacted trial authors from three studies for additional information.

Main results

We included 27 trials with 12,835 cases of sore throat. We did not identify any new trials in this 2013 update.

1. Symptoms

Throat soreness and fever were reduced by about half by using antibiotics. The greatest difference was seen at day three. The number needed to treat to benefit (NNTB) to prevent one sore throat at day three was less than six; at week one it was 21.

2. Non-suppurative complications

The trend was antibiotics protecting against acute glomerulonephritis but there were too few cases to be sure. Several studies found antibiotics reduced acute rheumatic fever by more than two-thirds within one month (risk ratio (RR) 0.27; 95% confidence interval (CI) 0.12 to 0.60).

3. Suppurative complications

Antibiotics reduced the incidence of acute otitis media within 14 days (RR 0.30; 95% CI 0.15 to 0.58); acute sinusitis within 14 days (RR 0.48; 95% CI 0.08 to 2.76); and quinsy within two months (RR 0.15; 95% CI 0.05 to 0.47) compared to those taking placebo.

4. Subgroup analyses of symptom reduction

Antibiotics were more effective against symptoms at day three (RR 0.58; 95% CI 0.48 to 0.71) if throat swabs were positive for *Streptococcus*, compared to RR 0.78; 95% CI 0.63 to 0.97 if negative. Similarly at week one the RR was 0.29 (95% CI 0.12 to 0.70) for positive and 0.73 (95% CI 0.50 to 1.07) for negative *Streptococcus* swabs.

Authors' conclusions

Antibiotics confer relative benefits in the treatment of sore throat. However, the absolute benefits are modest. Protecting sore throat sufferers against suppurative and non-suppurative complications in high-income countries requires treating many with antibiotics for one to benefit. This NNTB may be lower in low-income countries. Antibiotics shorten the duration of symptoms by about 16 hours overall.

PLAIN LANGUAGE SUMMARY

Antibiotics for people with sore throats

Question

This review sought to determine whether antibiotics are effective for treating the symptoms and reducing the potential complications associated with sore throats.

Background

Sore throats are infections caused by bacteria or viruses. People usually recover quickly (usually after three or four days), although some develop complications. A serious but rare complication is rheumatic fever, which affects the heart and joints. Antibiotics reduce bacterial infections but they can cause diarrhea, rash and other adverse effects and communities build resistance to them.

Study characteristics

The review is current to July 2013 and included 27 trials with 12,835 cases of sore throat. All of the included studies were randomised, placebo-controlled trials which sought to determine if antibiotics helped reduce symptoms of either sore throat, fever and headache or the occurrence of more serious complications. Studies were conducted among both children and adults.

Key results

The review found that antibiotics shorten the duration of pain symptoms by an average of about one day and can reduce the chance of rheumatic fever by more than two-thirds in communities where this complication is common. Other complications associated with sore throat are also reduced through antibiotic use.

Quality of evidence

The quality of the included studies was moderate to high. However, there were very few recent trials included in the review (only three since 2000), hence it is unclear if changes in bacterial resistance in the community may have affected the effectiveness of antibiotics.