Journal Digest

In patients with acute bronchitis, do antibiotics reduce sputum production, cough, or number of days off work?

Bent S, Saint S, Vittinghoff E, Grady D. Antibiotics in acute bronchitis: a meta-analysis. *Am J Med* 1999;107:62-67.

DATA SOURCES

English-language studies were identified in MEDLINE (1966-April 1998) by using the terms drug therapy, bronchitis, and acute disease; the reference lists of relevant articles were reviewed, and experts in the field were contacted.

STUDY SELECTION

Studies were selected if they were randomized controlled trials that compared the use of antibiotics with that of placebo in patients who had acute bronchitis but no history of chronic lung disease or pneumonia, therapy was given for 5 days or longer, and effect sizes could be calculated from the data presented.

DATA EXTRACTION

Data were extracted on sample size, patient age, study inclusion and exclusion criteria, antibiotic regimen, and outcome measures. The main outcome measure was days of sputum production, which was transformed into SD units for each study.

MAIN RESULTS

Eight studies (660 patients) were included and used erythromycin, doxycycline, or the combination of trimethoprim and sulfamethoxazole. The overall summary effect size of antibiotic therapy was 0.21 SD units (95% confidence interval, 0.05-0.36), equivalent to about a half-day less of cough and sputum production than with placebo. Days of purulent sputum, days of cough, and days lost from work were measured in 4 or more trials; the results for antibiotic use and placebo did not differ (table).

Antibiotics vs placebo for outcomes of acute bronchitis measured by 4 or more trials

Outcomes	No. of trials	Weighted mean decrease (95% CI), d
Day of purulent sputum, No.	6	0.4 (−0.1–0.8)*
Days of cough, No.	4	0.5 (−0.1–1.1)†
Days off work, No.	6	0.3 (−0.6–1.1)†

CI = confidence interval.

*Significant when pooled in SD units, but not significant in units of days.

†Heterogeneity existed among these studies. Results were not significant.

CONCLUSION

In patients with acute bronchitis, the use of antibiotics reduces cough and sputum production by about half a day.

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Funding: no external funding.

This digest and commentary appeared previously in *Evidence-Based Medicine* 2000;5:42