

Azithromycin for acute bronchitis: a randomised, double-blind, controlled trial

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FROM ABSTRACT

Background

The value of azithromycin for treatment of acute bronchitis is unknown, even though this drug is commonly prescribed.

We have investigated this question in a randomised, double-blind, controlled trial.

Methods

Adults diagnosed with acute bronchitis, without evidence of underlying lung disease, were randomly assigned azithromycin (n=112) or vitamin C (n=108) for 5 days (total dose for each 1.5 g).

The primary outcome was improvement in health-related quality of life at 7 days; an important difference was defined as 0.5 or greater.

Findings

On day 7, the adjusted difference in health-related quality of life was small and not significant.

86 (89%) of 97 patients in the azithromycin group and 82 (89%) of 92 in the vitamin C group had returned to their usual activities by day 7.

There were no differences in the frequency of adverse effects.

Interpretation

Azithromycin is no better than low-dose vitamin C for acute bronchitis.

THESE AUTHORS ALSO NOTE:

“Every year, more than ten million US adults visit physicians for acute bronchitis, and most of them receive antibiotics.”

“Many experts condemn such treatment, citing three main reasons:

- (1) weak or conflicting experimental evidence of clinical benefit
- (2) lack of a strong biological rationale (the causative pathogens are viruses in most cases)
- (3) increasing societal concern about widespread antibiotic resistance.”

The newer antibiotics prescribed for acute bronchitis are widely promoted and prescribed, including quinolones and the newer macrolides.

“Azithromycin is a macrolide antibiotic commonly prescribed for acute bronchitis.”

Azithromycin is a broad spectrum expensive antibiotic.

The one large study supporting the use of Azithromycin was uncontrolled and drug-company-sponsored.

This study is a randomised, double-blind, controlled clinical trial for acute bronchitis comparing the antibiotic Azithromycin to vitamin C.

The primary endpoint for this study was health-related quality of life on day 7 of follow-up.

Secondary endpoints were return to usual daily activities, scores that comprise health-related quality of life, and adverse effects.

RESULTS

220 patients met the inclusion criteria and were enrolled in the study.

“The azithromycin and vitamin C groups did not differ significantly in their crude or adjusted mean health-related quality-of-life scores on day 3 or day 7.”

“The rate of improvement was the same for both groups.”

At day 7, differences between groups for all domains of health-related quality of life showed little clinically important differences.

“The azithromycin and vitamin C groups did not differ significantly in the proportion who had returned to their usual activities at work, home, or school by day 3 or by day 7.”

“Among the participants contacted on day 3, 18 of 96 (19%) in the azithromycin group reported adverse effects from study medications, compared with 19 of 92 (21%) in the vitamin C group.”

“The most common complaints were diarrhea and nausea.”

“On day 7, perceived adverse effects were reported by 24 of 97 (25%) in the azithromycin group and 19 of 92 (21%) in the vitamin C group.”

DISCUSSION

"These results show that azithromycin is no more effective than low-dose vitamin C for treatment of acute bronchitis."

"Given the lack of evidence that low-dose vitamin C is beneficial, we conclude that azithromycin is ineffective and should not be prescribed for patients with acute bronchitis."

These authors detail the strength of this study's internal and external validity.

"Our findings shift the burden of proof to proponents of antibiotic therapy for patients with acute bronchitis."

KEY POINTS FROM DAN MURPHY:

- (1) There are more than 10 million US adult visits to physicians for acute bronchitis each year.
- (2) Most acute bronchitis is viral, not bacterial.
- (3) However, most of these 10 million patients receive antibiotics from their US physicians. **[And They Call Chiropractors Quacks]**
- (4) Prescribing antibiotics for acute bronchitis is problematic because:
 - (A) Clinical evidence to support such is lacking.
 - (B) It makes no biological sense because the causative pathogens are viruses, not bacteria.
 - (C) Using antibiotics to treat viral diseases increases widespread antibiotic resistance.
- (5) The antibiotics most prescribed for acute bronchitis are those that are most promoted by drug companies, like Azithromycin.
- (6) Often, studies used to support the use of a particular drug, like Azithromycin, are weak, uncontrolled, and drug-company-sponsored.
- (7) An alternative interpretation of the data might be that vitamin C was a poor choice for placebo, and may have offered the patient therapeutic benefit.