


[Get Access](#)[Share](#)[Export](#)

The Lancet

Volume 390, Issue 10095, 12–18 August 2017, Pages 659–668

Articles

Effect of azithromycin on asthma exacerbations and quality of life in adults with persistent uncontrolled asthma (AMAZES): a randomised, double-blind, placebo-controlled trial

Prof Peter G Gibson MBBS ^{a, b, c} , Prof Ian A Yang MBBS ^{d, e}, Prof John W Upham MBBS ^{d, f}, Prof Paul N Reynolds MD ^{g, h, i}, Prof Sandra Hodge PhD ^{g, h, i}, Prof Alan L James FRACP ^{j, k}, Prof Christine Jenkins MD ^{l, n}, Prof Matthew J Peters MBBS ^{m, n}, Prof Guy B Marks PhD ^o, Melissa Baraket PhD ^p, Heather Powell MMedSc ^{a, b}, Steven L Taylor BSc ^{q, r}, Lex E X Leong PhD ^{q, r}, Prof Geraint B Rogers PhD ^{q, r}, Prof Jodie L Simpson PhD ^b

 [Show more](#)

[https://doi.org/10.1016/S0140-6736\(17\)31281-3](https://doi.org/10.1016/S0140-6736(17)31281-3)

[Get rights and content](#)

Refers to

Guy Brusselle, Ian Pavord

[Azithromycin in uncontrolled asthma](#)

The Lancet, Volume 390, Issue 10095, 12–18 August 2017, Pages 629–630



[Purchase PDF](#)

Referred to by

Michael G Crooks, Shoaib Faruqi, Alyn H Morice

[How does azithromycin improve asthma exacerbations?](#)

The Lancet, Volume 391, Issue 10115, 6–12 January 2018, Pages 28

 [Purchase PDF](#)

Peter G Gibson

[How does azithromycin improve asthma exacerbations? – Author's reply](#)

The Lancet, Volume 391, Issue 10115, 6–12 January 2018, Pages 28-29

 [Purchase PDF](#)

Guy Brusselle, Ian Pavord

[Azithromycin in uncontrolled asthma](#)

The Lancet, Volume 390, Issue 10095, 12–18 August 2017, Pages 629-630

 [Purchase PDF](#)

Summary

Background

Exacerbations of asthma cause a substantial global illness burden. Adults with uncontrolled persistent asthma despite **maintenance treatment** require additional therapy. Since **macrolide antibiotics** can be used to treat persistent asthma, we aimed to assess the efficacy and safety of oral **azithromycin** as **add-on therapy** in patients with uncontrolled persistent asthma on medium-to-high **dose inhaled corticosteroids** plus a long-acting **bronchodilator**.

Methods

We did a randomised, double-blind, placebo controlled parallel **group trial** to determine whether oral azithromycin decreases the frequency of **asthma exacerbations** in adults (≥ 18 years) with **symptomatic asthma** despite current use of inhaled corticosteroid and long-acting bronchodilator, and who had no **hearing impairment** or abnormal prolongation of the **corrected QT interval**. Patients were randomly assigned (1:1) to receive azithromycin 500 mg or placebo three times per week for 48 weeks. Patients were centrally allocated using concealed random allocation from a computer-generated random numbers table with permuted blocks of 4 or 6 and stratification for centre and

past smoking. Primary efficacy endpoints were the rate of total (severe and moderate) asthma exacerbations over 48 weeks and asthma quality of life. Data were analysed on an intention-to-treat basis. The trial is registered at the Australian and New Zealand Clinical Trials Registry (ANZCTR), number 12609000197235.

Findings

Between June 12, 2009, and Jan 31, 2015, 420 patients were randomly assigned (213 in the azithromycin group and 207 in the placebo group). Azithromycin reduced asthma exacerbations (1.07 per patient-year [95% CI 0.85–1.29]) compared with placebo (1.86 per patient-year [1.54–2.18]; incidence rate ratio [IRR] 0.59 [95% CI 0.47–0.74]; $p < 0.0001$). The proportion of patients experiencing at least one asthma exacerbation was reduced by azithromycin treatment (127 [61%] patients in the placebo group *vs* 94 [44%] patients in the azithromycin group, $p < 0.0001$). Azithromycin significantly improved asthma-related quality of life (adjusted mean difference, 0.36 [95% CI 0.21–0.52]; $p = 0.001$). **Diarrhoea** was more common in azithromycin-treated patients (72 [34%] *vs* 39 [19%]; $p = 0.001$).

Interpretation

Adults with persistent symptomatic asthma experience fewer asthma exacerbations and improved quality of life when treated with oral azithromycin for 48 weeks. Azithromycin might be a useful add-on therapy in persistent asthma.

Funding

National Health and Medical Research Council of Australia, John Hunter Hospital Charitable Trust.

 **Previous**

Next 

[Recommended articles](#)

[Citing articles \(67\)](#)

© 2017 Elsevier Ltd. All rights reserved.

ELSEVIER

[About ScienceDirect](#) [Remote access](#) [Shopping cart](#) [Contact and support](#)
[Terms and conditions](#) [Privacy policy](#)

We use cookies to help provide and enhance our service and tailor content and ads. By continuing you agree to the [use of cookies](#).

Copyright © 2019 Elsevier B.V. or its licensors or contributors. ScienceDirect® is a registered trademark of Elsevier B.V.

 **RELX** Group™