Amoxicillin duration and dose for community-acquired pneumonia in children: the CAP-IT factorial non-inferiority RCT

Sam Barratt,[1] Julia A Bielicki,[2] David Dunn,[1] Saul N Faust,[3] Adam Finn,[4] Lynda Harper,[1†] Pauline Jackson,[5] Mark D Lyttle,[5,6] Colin VE Powell,[7,8] Louise Rogers,[9] Damian Roland,[10,11] Wolfgang Stöhr,[1] Kate Sturgeon,[1] Elia Vitale,[2] Mandy Wan,[12] Diana M Gibb[1] and Mike Sharland[2*] on behalf of the CAP-IT Trial Team and the PERUKI and GAPRUKI Networks

[1]MRC Clinical Trials Unit, University College London, London, UK
[2]Paediatric Infectious Diseases Research Group, Institute for Infection and Immunity, St George's University of London, London, UK
[3]NIHR Southampton Clinical Research Facility and Biomedical Research Centre, University of Southampton, University Hospital Southampton NHS Foundation Trust, Southampton, UK
[4]Bristol Children's Vaccine Centre, School of Population Health Sciences/School of Cellular and Molecular Medicine, University of Bristol, Bristol, UK
[5]Emergency Department, Bristol Royal Hospital for Children, Bristol, UK
[6]Faculty of Health and Applied Sciences, University of the West of England, Bristol, UK
[7]Paediatric Emergency Medicine Department, Sidra Medicine, Doha, The State of Qatar
[8]School of Medicine, Cardiff University, Cardiff, UK
[9]Research and Development Nursing Team, Birmingham Women's and Children's NHS Foundation Trust, Birmingham, UK
[10]Paediatric Emergency Medicine Leicester Academic (PEMLA) Group, University Hospitals of Leicester NHS Trust, Leicester, UK
[11]SAPPHIRE Group, Health Sciences, Leicester University, Leicester, UK
[12]Evelina Pharmacy, Guy's and St Thomas' NHS Foundation Trust, London, UK

*Corresponding author msharland@sgul.ac.uk
†In memoriam

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Plain English summary

The CAP-IT RCT

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Plain English summary

Pneumonia (an acute lung infection) is a common diagnosis in young children worldwide. To cure this, some children are given antibiotics, but we do not currently know the best amount (dose) to give and the ideal number of days (duration) of treatment.

Taking antibiotics causes changes in bacteria, making them more resistant to treatment. This may be affected by the dose and duration, and is important because resistant bacteria are harder to treat and could spread to other people.

Amoxicillin is the most common antibiotic treatment for children with pneumonia. CAP-IT (Community-Acquired Pneumonia: a protocol for a randomIsed controlled Trial) tested if lower doses and shorter durations of amoxicillin are as good as higher doses and longer durations, and whether or not these affect the presence of resistant bacteria.

In total, 824 children in the UK and Ireland with pneumonia participated. They received either high- or low-dose amoxicillin for 3 or 7 days following discharge from hospital. To ensure that neither doctors nor parents were influenced by knowing which group a child was in, we included dummy drugs (placebo).

We measured how often children were given more antibiotics for respiratory infections in the 4 weeks after starting the trial medicine. To check for resistant bacteria, a nose swab was collected before starting treatment and again after 4 weeks.

One in every eight participating children was given additional antibiotics. We found no important difference in this proportion between 3 days and 7 days of amoxicillin treatment, or between lower or higher doses. Although children's coughs took slightly longer to go away when they received only 3 days of antibiotics, rash was reported slightly more often in children taking 7 days of antibiotics. There was no effect of dose of amoxicillin on any of the symptom measurements. No effect of duration of treatment or dose was observed for antibiotic resistance in bacteria living in the nose and throat.

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This report

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