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## Lung alert

### Procalcitonin-guided antibiotic use for respiratory tract infections

Antibiotic therapy is widely used in primary care to treat acute respiratory tract infections in spite of predominant viral aetiology. This study investigated whether procalcitonin (PCT), a biochemical marker elevated in systemic bacterial infections, can be used to guide antibiotic treatment.

A total of 458 adults with respiratory tract infection symptoms who, in their physician's opinion required antibiotics, were included. Patients were randomised to PCT-guided or standard antibiotic therapy. Antibiotic use in the PCT-guided therapy arm was related to raised serum levels. Follow-up data were collected at 7, 14 and 28 days after presentation. The primary outcome measure was the number of days of patient inactivity. Secondary outcome measures included antibiotic prescription rates and duration of treatment.

There was no difference in the number of days with restricted activities between the two groups. A 40% reduction in antibiotic prescriptions was found in the PCT-guided group in those patients with an acute exacerbation of COPD, asthma or community acquired pneumonia, and an 80% reduction in those with upper respiratory tract infections or acute bronchitis. Interestingly, 15% of patients received antibiotics in the PCT group despite PCT levels being below the cut-off level.

The authors concluded that PCT-guided treatment did not compromise patient outcome in acute respiratory tract infections. However, patients were not blinded, possibly leading to bias in those who did not receive antibiotics. PCT could be used in the future to guide treatment and to reduce antibiotic use which, in turn, may help to decrease antibiotic resistance. However, changing physicians' methods of practice may prove a trickier task.

- Briel M, Schuetz P, Mueller B, *et al.* Procalcitonin-guided antibiotic use vs a standard approach for acute respiratory tract infections in primary care. *Arch Intern Med* 2008;**168**:2000–7.

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