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Photo: Siri Jensen

Ceasing to prescribe antibiotics for mild respiratory tract infections is difficult. New treatment alternatives could make it easier.

A slingshot rather than a cannon

In an American study, general practitioners reduced their prescription rate for antibiotics for acute bronchitis from 74 % to 61 % (1). In many ways, this was an impressive result. In other contexts, however, a prescription rate of 61 % for a condition for which the drug hardly has any effect at all would be considered a failure (2). Welcome to the strange world of antibiotics.

Antibiotics have an undeservedly good reputation for treatment of respiratory tract infections in general practice. They are widely used, with little or no benefit. What are the reasons for this exaggerated and excessive use? Two main causes have been identified: prognostic uncertainty and perceived expectations of antibiotics on the part of the patients (3).

The prognostic uncertainty is associated with the working methods applied in general practice. In general practice, diagnostics are often based on medical history, symptoms, findings, examinations and simple, rapid tests. Costly diagnostic imaging and microbiological examinations with long response times are poorly suited to the GP's function as gatekeeper and the need to respond quickly to the patient's ailments. The GP must implement measures without having a reliable answer as to whether these ailments are caused by bronchitis or pneumonia, whether the infection is caused by viruses or bacteria, or whether the patient will benefit from antibiotics or not. This uncertainty will often benefit the manufacturer, but not necessarily the patient. Similarly, the likelihood of being prescribed antibiotics increases when the doctor perceives that the patient expects such treatment (4).

Researchers in general practice have been concerned with identifying measures that can reduce this prognostic uncertainty and the perception that the patient expects antibiotics. The introduction of rapid tests such as the CRP test and the Strep A test has brought about a significant reduction in antibiotic use (5). Such tests are widely used in Norway and the other Nordic countries, and could be one of the reasons for the relatively low prescribing rate we have here. Using expectancy as an aid to reduce prognostic uncertainty, for example by using wait-and-see prescriptions, could also help (6). Training courses for doctors in how to clarify the patients' real expectations have also produced good effects, since patients commonly prefer a thorough examination and appropriate information rather than a prescription for antibiotics (5).

Another approach is to investigate whether treatment alternatives other than systemic antibiotics could have an equally good, or even better, effect. In a recent study, antibiotics were compared to ibuprofen for acute bronchitis (7). The idea was that the prolonged coughing that often accompanies bronchitis and tends to bring the patient to the doctor's surgery is more due to a post-infectious

inflammation than an infection. The patients recovered equally quickly, irrespective of whether they received antibiotics, ibuprofen – or placebo. Adverse effects were most frequent in the group that received antibiotics. Even more promisingly, ibuprofen has shown good effects for uncomplicated cystitis in a pilot study (8). An ongoing international study, initiated by Norwegian general practice researchers, may provide an answer as to whether ibuprofen is as effective as mecillinam for this condition (9). Finally, in this issue of the Journal of the Norwegian Medical Association, Nielsen and collaborators present a study in which they have found a surprisingly good effect of chloramphenicol eye drops for treatment of sinusitis-type ailments (10). Even though chloramphenicol is an antibiotic too, its local application is far preferable to systemic antibiotics, because of the lesser risk of adverse effects and development of resistance. Whether the results from this study are reproducible in large-scale studies with a more robust design remains uncertain, but the results are sufficiently interesting to encourage someone to attempt such studies.

The optimal solution would be to cease prescribing antibiotics for mild respiratory tract infections. However, some distance remains to this goal. Development of appropriate and less harmful alternatives to systemic antibiotics is therefore welcome. If you really want to shoot sparrows, use a slingshot rather than a cannon. Cannons should be reserved for greater threats.

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