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Oral dexamethasone works better than oral prednisolone in children with croup

Research question Is prednisolone as good as dexamethasone at relieving croup in children?

Answer No. Dexamethasone works better

Why did the authors do the study? Oral dexamethasone is an established treatment for childhood croup, reducing symptoms and helping keep children out of hospital. But in some countries, such as Australia, oral dexamethasone is commercially available as a tablet only, which is unsuitable for infants and many young children. Hospital pharmacies can make up dexamethasone elixir, but it is expensive and unavailable to general practitioners who see many infants with croup. These authors wanted to find out if prednisolone, which is widely available as an elixir, could be used instead. They specifically wanted to know if the two drugs had equivalent effects in young children with mild or moderate croup.

What did they do? The authors recruited 133 children with a mean age of 37 months into a double blind randomised controlled trial comparing a single oral dose of dexamethasone (0.15 mg/kg) with a single dose of prednisolone matched for potency (1 mg/kg). Both drugs were given as medicines that tasted identical, made up by a hospital pharmacy. The children all had mild or moderate croup, determined by a validated croup score, and were attending the emergency department of a single tertiary care paediatric hospital in Western Australia. They were observed regularly from randomisation until discharge. The authors telephoned parents a week to 10 days after discharge to find out if their child had needed any further medical attention for croup, including hospitalisation. This was their main outcome measure. Secondary outcome measures included duration of croup symptoms (again reported by parents), length of time spent in the emergency department, and use of nebulised adrenaline.

The authors defined equivalence as an absolute difference between treatment groups of between 0% and 7.5% for the main outcome measure, and did a power calculation to guide recruitment.

What did they find? Of the children given prednisolone, 29% (19/65), needed further unscheduled medical care, compared with 7% (5/68) of the children given dexamethasone. The absolute difference of 22% between the groups had 95% confidence intervals between 8% and 35%, well outside the authors' definition of equivalence. In fact, further analysis showed that dexamethasone worked significantly better than prednisolone ($P < 0.01$) on this measure. No side effects were seen in either group, nor was there any difference in duration of symptoms, or use of nebulised adrenaline (five in each group).

What does it mean? This study showed that a single dose of prednisolone does not work as well as a single dose of dexamethasone for children with mild or moderate croup. Doctors in emergency departments should not simply substitute one for the other, although the authors say that many do. Dexamethasone lasts substantially longer than prednisolone (half life 36-72 hours *v* 12-36 hours), which may explain why a one off dose worked better in these children. Trials testing a longer course of prednisolone should be done in places where dexamethasone elixir remains hard to come by.

Sparrow A, Geelhoed.G. Prednisolone versus dexamethasone in croup: a randomised equivalence trial. *Arch Dis Childhood* 2006;91:580-3

Editor's choice

Rite of passage

Patients have rights but do they also have responsibilities? John Major's 1991 Citizen's Charter set out for the first time in the UK the right of "consumers" of health care to a certain level of service. It was an important initiative but it got the balance wrong. It made no mention of patients' responsibilities.

Why are responsibilities important? Because the patient is central to health care. Luisa Dillner, who set up the *BMJ*'s Best Treatments website for patients, has always (I think rightly) disputed Liam Donaldson's airline analogy for patient safety. Patients should not be seen simply as passengers, entirely dependent for their safety on others. They can actively influence the outcome of care, both for good and bad. Tony Blair's call last week for the nation to take more responsibility for its own health indicates a shift in government thinking, driven partly by the growing cost of unhealthy lifestyles.

So what are patients' responsibilities, and do they vary in different healthcare settings? At a meeting last month at the Nuffield Trust, ethicists and others gathered to discuss health care and the public interest. The conveners, Iona Heath, Stephen Pattison, and Martyn Evans, asked us to consider how individual liberty and individual responsibilities could be combined to create justice in a publicly funded health service. We considered examples where public and individual interests clash: immunisation, screening, sharing of data, and even participation in research.

Martyn Evans has previously argued that if you are going to benefit from treatments tested on previous patients you have a responsibility to take part in future clinical research (*Journal of Medical Ethics* 2004;30:198) In this week's *BMJ* Jenny Hewison and Andy Haines take a less extreme view (p 300). They criticise the current preference among research ethics committees for patients having to opt in before being invited to participate in research. "Recruitment procedures are part of the science, not an administrative add-on, so if patients and the public want certain kinds of research to be conducted, recruitment procedures need to aim to reduce bias and improve recruitment as far as possible." But should patients be compelled to take part? And what about prevention programmes? Strong voices at the meeting argued that these should always remain voluntary.

The meeting aimed to move from academic debate (and at times despair at the lack of public engagement in health policy) to action. One concrete idea was that people could be asked to actively join the health service as patients, with a rite of passage at age 16 and a contract. Schools do this after all, asking parents to sign up to the school rules and to read with their younger children every night. What might such a contract include? Perhaps at the least a commitment to look after your health and to understand the communitarian values of a publicly provided health service. Some general practices and hospital departments may already have something like this in place. If so we'd like to hear from you.

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