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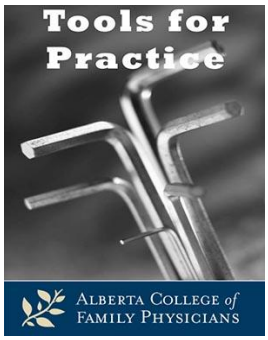

Coughing up the Data on Croup

Clinical Question: Are glucocorticoids beneficial for mild to moderate croup and, if so, is lower dose equivalent to standard dose?

Bottom-line: Glucocorticoids, including dexamethasone, are beneficial in the treatment of mild to moderate croup, with a NNT of 5 for symptom improvement and a NNT of 17 for return to care. Low-dose dexamethasone (0.15 mg/kg) may be equivalent to the more commonly prescribed 0.6 mg/kg.

Evidence:

- A systematic review (38 trials, 4,299 patients) evaluating glucocorticoids (the majority used dexamethasone) for mild to moderate croup found:[1]
  - Significant improvement in croup symptoms at six hours: Number Needed to Treat (NNT) 5 (95% Confidence Interval 3 to 11).
    - Similar improvement at 12 and 24 hours.
  - Fewer return visits to emergency and/or (re)admissions: NNT 17 (13 to 28).
  - Shorter time spent in emergency or hospital: mean difference 12 hours (5 to 19 hours).
  - No reported adverse events.
- The above review included two small randomized controlled trials (137 patients with mild to moderate croup) that compared 0.15 mg/kg to 0.6 mg/kg of dexamethasone. There was no difference in:
  - Change in croup score from baseline at six hours, Standard Mean Difference -0.02 (-0.37 to 0.32).
  - Return visits and/or (re)admissions, Risk Ratio 1.04 (0.62 to 1.75).
- Limitations: small sample size.

Context:

- Even children with mild croup (croup score <2) benefit from glucocorticoid treatment.[2]
- Symptom improvement of steroids may be evident in ten minutes, with statistically significant improvement at 30 minutes.[3]
- A retrospective observational study found reduced hospital and intensive care admission rates, length of stay and intubations when 0.6 mg/kg dexamethasone

was introduced and used in the hospital protocol (1980–1995).[4] These rates did not change when 0.6mg/kg was replaced by 0.15 mg/kg in 1995.[5]

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Tools for Practice is a biweekly article summarizing medical evidence with a focus on topical issues and practice modifying information. It is coordinated by G. Michael Allan, MD, CCFP and the content is written by practising family physicians who are joined occasionally by a health professional from another medical specialty or health discipline. Each article is peer-reviewed, ensuring it maintains a high standard of quality, accuracy, and academic integrity. If you are not a member of the ACFP and would like to receive the TFP emails, please sign up for the distribution list at http://bit.ly/signupfortfp. Archived articles are available on the ACFP website.