A 30 mg/kg loading dose of acetaminophen was more effective than a 15 mg/kg maintenance dose in febrile children


QUESTION: In febrile children, is an initial 30 mg/kg loading dose of acetaminophen more effective in reducing fever than a 15 mg/kg maintenance dose?

Patients
121 outpatients who were 4 months to 9 years of age (mean age 3 y), weighed 4–26 kg (mean weight 13 kg), and who had an initial rectal temperature of 39°C to 40.5°C, the cause of which was considered to be of viral or bacterial origin. Children were excluded if they had taken any temperature altering drug or antibiotics within the previous 24 hours; required antibiotic treatment within the first 4 hours of receiving acetaminophen; had hepatic, renal, or neurological diseases; had a history of hypersensitivity to acetaminophen; had febrile seizures; or had vomited during the medical consultation. Follow up data were not available for 1 patient.

Intervention
59 patients were allocated to a solution containing a 30 mg/kg loading dose of acetaminophen, and 62 were allocated to a solution containing a 15 mg/kg maintenance dose of acetaminophen, each given with an oral syringe.

Main outcome measures
The primary outcome measure was time to obtain a rectal temperature < 38.5°C. Secondary outcomes were time to maximum temperature decrease, maximum temperature decrease, time interval with temperature maintained below 38.5°C, rate of temperature decrease, number of patients given a temperature altering treatment during the 6 hour follow up period, and adverse events.

Main results
Analysis was by intention to treat. Mean time to obtain a rectal temperature < 38.5°C was shorter in the 30 mg/kg group than in the 15 mg/kg group (table). The maximum temperature decrease was higher in the 30 mg/kg group than in the 15 mg/kg group (table). Duration of rectal temperature < 38.5°C was longer in the 30 mg/kg group than in the 15 mg/kg group (table). The number of patients who received a temperature altering treatment during the follow up period was lower in the 30 mg/kg group than in the 15 mg/kg group (table). No difference existed between groups for time to maximum temperature decrease, rate of temperature decrease, or adverse events.

Conclusion
In febrile children, a 30 mg/kg loading dose of acetaminophen was more effective than a 15 mg/kg maintenance dose in reducing fever.
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