Comparison of nasogastric and intravenous methods of rehydration in pediatric patients with acute dehydration

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**Objective:** To assess the safety, efficacy, and cost-effectiveness of rapid nasogastric hydration (RNG) and rapid intravenous hydration (RIV) administered in the emergency department (ED) to young children suffering with uncomplicated, acute moderate dehydration.

**Methods:** Ninety-six children aged 3 to 36 months, who presented with signs and symptoms of uncomplicated, acute moderate dehydration caused by vomiting and/or diarrhea, presumed to be caused by viral gastroenteritis, were randomly assigned to receive either RNG with a standard oral rehydration solution or RIV with normal saline. Each solution was administered at a rate of 50 mL/kg of body weight, delivered over a 3-hour period in our urban pediatric ED. All participants were weighed pre-treatment and post-treatment and underwent initial and final measurements of their serum electrolytes, blood urea nitrogen, creatinine, and glucose levels, along with urine chemistry and urine specific gravity. Telephone follow-up by completion of a standardized questionnaire was obtained approximately 24 hours after discharge from the ED.

**Results:** Ninety-two of 96 enrolled patients completed the study. Three patients failed treatment (2 RIV and 1 RNG) and were excluded and hospitalized because of severe, intractable vomiting, and 1 patient was withdrawn secondary to an intussusception. Among 92 evaluable patients, 2 were found to be severely dehydrated (>10% change in body weight) and were excluded from analysis, leaving 90 patients (RNG: N = 46 and RIV: N = 44), who completed the study. Both RNG and RIV were found to be a safe and efficacious means of treating uncomplicated, acute moderate dehydration in the ED. Determinations of electrolytes, blood urea nitrogen, creatinine, or glucose were not found to be of value on an intent-to-treat basis in the care of these patients. The urine specific gravity and incidence of ketonuria declined from levels commensurate with moderate dehydration in the RNG group, but not as consistently so in the RIV group. Both RNG and RIV were substantially less expensive to administer than standard care with intravenous fluid deficit therapy in-hospital, and RNG was more cost-effective to administer over RIV in the outpatient setting.

**Conclusion:** RNG and RIV administered in the ED are safe, efficacious, and cost-effective alternatives to the standard treatment for uncomplicated, acute moderate dehydration in young children. RNG is as efficacious as RIV, is no more labor intensive than RIV, and is associated with fewer complications. In addition, we found that most routine laboratory testing is of little value in these patients and should be avoided, except when clearly clinically indicated.

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**Commentaire**

Des mesures simples et économiques sont souvent aussi efficaces que des traitement invasifs. Une réhydratation orale durant 3 heures par sonde naso-gastrique en salle d’urgence s’est avérée tout aussi efficace qu’une réhydratation parentérale lors de gastro-entérite modérée et a permis à ces enfants d’éviter une hospitalisation.

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**Efficacy and safety of pimecrolimus cream in the long-term management of atopic dermatitis in children**

*Wahn U et al.*

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**Commentaire**

Cette grande étude contrôlée en double aveugle, effectuée dans 19 pays, semble montrer un effet prometteur du pimécrolimus dans le traitement de l’eczéma atopique. Jusqu’ici, cette nouvelle substance semble bien tolérée, mais elle n’est pas encore généralement commercialisée et les risques de son emploi à long terme sont encore largement méconnus.