

Chloral hydrate against benign convulsions with mild gastroenteritis

Hideo ENOKI

Department of Child Neurology, Seirei Hamamatsu General Hospital, Hamamatsu, Shizuoka, Japan

Background and Objective: Benign convulsions with mild gastroenteritis are commonly seen in Japan and eastern Asia. They are characterized by afebrile generalized seizures associated with gastroenteritis in children aged from 6 months to 3 years.¹ Rotavirus is the most common agent of gastroenteritis accompanied by convulsions. The seizures often occur in clusters and are resistant to anticonvulsants, such as diazepam (DZP) or phenobarbital.¹ A lower effectiveness of DZP is a serious problem in the treatment. We report here a new approach to therapy for this disease: a single-dose administration of chloral hydrate (CH).

Methods: We conducted a retrospective study at Seirei Hamamatsu General Hospital from 2003 to 2005. We listed 33 patients, 15 boys and 18 girls, and their ages ranged from 7 to 39 months. The time-series records of seizures and administrations of the anticonvulsants were investigated. Seizures started on the 1st to the 5th day (mean 3.0) of the gastroenteritis. The number of seizures during a single series ranged from 1 to 8 (mean 2.9). Anticonvulsants were administered in 26 patients: CH alone in 10 patients, DZP alone in 4, and both CH and DZP in 12. CH was given by suppository at a dose of 33.8-62.5 mg/kg (mean 48.7). DZP was administered by suppository and/or intravenous route at a dose of 0.27-0.55 mg/kg (mean 0.43).

Results: CH was given as the first-line agent in 10 patients and was effective in all, whereas DZP was effective in 2 of 16 patients (13%). The efficacy rate in the initial treatment was significantly higher for CH than for DZP ($P < 0.0001$). A total of 12 patients were administered the second agent: CH in 9 and DZP in 3. CH was effective in 7 patients and DZP in none. CH was given to 5 patients as the third medication and was effective in 4. In total, a single dose of CH was administered in 22 patients and was effective in 19 (86%). In patients whose seizures ceased with CH, the doses ranged from 41.7 to 62.5 mg/kg (mean 50.2). In 2 patients, seizures were resistant to single-dose CH therapy. Their doses of CH were 33.8 and 35.1 mg/kg, which were relatively smaller.

Conclusion: The results demonstrated an advantage of CH because it achieved optimal efficacy with a single-dose administration. We recommend a treatment with a sufficient dose of not less than 40 mg/kg of CH.²

References

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