

## Journal Watch Hydration

### Effects of Parenteral Hydration in Terminally Ill Cancer Patients: A Preliminary Study

**Reference:** Eduardo Bruera et al. J Clin Oncol 2005 ;23(10):2366-2371.

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#### Abstract:

##### **Purpose**

most patients with cancer develop decreased oral intake and dehydration before death. This study aimed to determine the effect of parenteral hydration on overall symptom control in terminally ill cancer patients with dehydration.

##### **Patients and Methods**

Patients with clinical evidence of mild to moderate dehydration and a liquid oral intake less than 1,000 mL/day were randomly assigned to receive either parenteral hydration with 1,000 mL (treatment group) or placebo with 100 mL normal saline administered over 4 hours for 2 days. Patients were evaluated for target symptoms (hallucinations, myoclonus, fatigue, and sedation), global well-being, and overall benefit.

##### **Results**

Twenty-seven patients randomly assigned to the treatment group had improvement in 53 (73%) of their 73 target symptoms versus 33 (49%) of 67 target symptoms in the placebo group ( $n=22$ ;  $P=.005$ ). Fifteen (83%) of 18 and 15 (83%) of 18 patients had improved myoclonus and sedation after hydration versus eight (47%) of 17 and five (33%) of 15 patients after placebo ( $P=.035$  and  $P=.005$ , respectively). There were no significant differences of improvement in hallucinations or fatigue between groups. When blinded to treatment, patients (17 [63%] of 27) and investigators (20 [74%] of 27) perceived hydration as effective compared with placebo in nine (41%) of 22 patients ( $P=.78$ ) and 12 (54%) of 22 investigators ( $P=.15$ ), respectively. The intensity of pain and swelling at the injection site were not significantly different between groups.

##### **Conclusion**

Parenteral hydration decreased symptoms of dehydration in terminally ill cancer patients who had decreased fluid intake. Hydration was well tolerated, and a placebo effect was observed. Studies with larger samples and a longer follow-up period are justified.

#### Strengths:

Previous studies on this subject have been retrospective this is the 1<sup>st</sup> RCT addressing this issue

A well-designed study with appropriate blinding

A moderate number of enrolled patients from a few centers around the world patient and physician assessment of intervention benefit

The use of numerical scales to describe symptoms with clear cut off points

**Weaknesses:**

Short follow up (2 days)

All patients enrolled were on opioids which could be a strong confounding factor as the benefits of hydration may be by increasing elimination of active opioid metabolites and not due to the hydration

Exclusion of patients with impaired cognition so could not truly address the effect of hydration on this issue.

**Relevance to Palliative Care:** Hydration near the end of life is a complex issue as clinical practice is varied due to strong arguments for and against fluid administration.

Unfortunately the decision-making process is difficult due to the lack of strong evidence.

This article provides additional evidence that RCTs are possible to conduct, and further studies should be attempted to help resolve this debate.