

Furosemide Doesn't Prevent Acute Renal Failure

Editor's note: In the interest of continuing to provide you with relevant information you can use directly at the point of patient care, we are introducing Patient-Oriented Evidence that Matters, or POEMs. InfoPOEMs, owned by John Wiley & Sons, which also publishes D&T, are designed to keep you informed through medical literature and evidence-based medicine you can apply to your practice. Staff physicians at InfoPOEMs review more than 100 medical journals monthly, and select the best information you can use. They then summarize the study, creating a POEM. These are designed to be synopses, not complete abstracts—they present only the most important information. Each review is supported by a Level of Evidence (LOE) indicator, so you can discern how well this information is supported.

POEMs have to meet three criteria:

- They address a question that you face as clinicians.
- They measure outcomes that you and your patients care about: symptoms, morbidity, quality of life, and mortality.
- They have the potential to change the way you practice.

We have started with a collection of topics relevant to several aspects of renal care. We will continue to include at least one POEM in each issue. We look forward to your feedback on this newest addition to D&T, and whether we should increase this content.

CLINICAL QUESTION

Is furosemide (frusemide) effective in treating or preventing acute renal failure in adults?

BOTTOM LINE

In-hospital mortality is not affected by the use of high-dose furosemide to treat or prevent acute renal failure, and furosemide increases the hospital length of stay. (LOE = 1a)

REFERENCE

Ho KM, Sheridan DJ. Meta-analysis of frusemide to prevent or treat acute renal failure. *BMJ* 2006;333:406–407.

STUDY DESIGN

Meta-analysis (randomized controlled trials)

FUNDING

Self-funded or unfunded

SETTING

Inpatient (ICU only)

SYNOPSIS

The rationale behind loop diuretic use in acute renal failure is the better prognosis of nonoliguric renal failure as compared with oliguric renal failure; artificially maintaining urine production with a diuretic seems, therefore, to make sense. These researchers combined the results of 9 randomized controlled trials enrolling a total of 849 patients. The studies were found through a search of 3 databases and checking the reference lists of retrieved articles. Two researchers independently selected the studies and abstracted the

data. The quality of the study was low (Jadad score = 2.6 of 5). Doses of furosemide varied among the studies and included continuous infusion or single bolus doses. Doses ranged from 600 to 3400 mg daily for treatment. In-hospital mortality was approximately 32% and was not different between groups treated with furosemide or placebo to prevent or treat acute renal failure. Furosemide use to prevent acute renal failure increased the length of hospital stay by an average 3.57 days (95% CI, 0.03–7.12; $p = .049$). The need for dialysis was heterogeneous across studies but was not affected by the use of furosemide. The authors report a possibility of publication bias in which small studies showing a benefit of furosemide have not been published.