

## **Does catheter-associated urinary tract infection increase mortality in critically ill patients?**

**Clec'h C, Schwebel C, Français A, Toledano D, Fosse JP, Garrouste-Orgeas M, Azoulay E, Adrie C, Jamali S, Descorps-Declere A, Nakache D, Timsit JF, Cohen Y; OutcomeRea Study Group.**

Medical-Surgical Intensive Care Unit, Avicenne Teaching Hospital, Bobigny, France.

**OBJECTIVE:** To produce an accurate estimate of the association between catheter-associated urinary tract infection (UTI) and intensive care unit (ICU) and hospital mortality, controlling for major confounding factors. **DESIGN:** Nested case-control study in a multicenter cohort (the OutcomeRea database). **SETTING:** Twelve French medical or surgical ICUs. **METHODS:** All patients admitted between January 1997 and August 2005 who required the insertion of an indwelling urinary catheter. Patients who developed catheter-associated UTI (ie, case patients) were matched to control patients on the basis of the following criteria: sex, age ( $\pm$  10 years), SAPS (Simplified Acute Physiology Score) II score ( $\pm$  10 points), duration of urinary tract catheterization, and presence or absence of diabetes mellitus. The association of catheter-associated UTI with ICU and hospital mortality was assessed by use of conditional logistic regression. **RESULTS:** Of the 3,281 patients who had an indwelling urinary catheter, 298 (9%) developed at least 1 episode of catheter-associated UTI. The incidence density of catheter-associated UTI was 12.9 infections per 1,000 catheterization-days. Crude ICU mortality rates were higher among patients with catheter-associated UTI, compared with those without catheter-associated UTI (32% vs 25%,  $P=.02$ ); the same was true for crude hospital mortality rates (43% vs 30%,  $P<.01$ ). After matching and adjustment, catheter-associated UTI was no longer associated with increased mortality (ICU mortality: odds ratio [OR], 0.846 [95% confidence interval {CI}, 0.659-1.086];  $P=.19$  and hospital mortality: OR, 0.949 [95% CI, 0.763-1.181];  $P=.64$ ). **CONCLUSION:** After carefully controlling for confounding factors, catheter-associated UTI was not found to be associated with excess mortality among our population of critically ill patients in either the ICU or the hospital.

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