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144E Comparison of the antibiotic dose prescription through an antibiotic dose alert system and by a clinical pharmacist in critically ill patients with renal dysfunction

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[Barbara O. Claus, Hospital, Pharmacist](#) , Ghent University Hospital, Ghent, Belgium

Kirsten E. Colpaert, Ph , Ghent University Hospital, Ghent, Belgium

Valerie Vanderstraeten, Pharm , Ghent University, Ghent, Belgium

Kristof Steurbaut, Engineer , Ghent University Hospital, Ghent, Belgium

Johan M. Decruyenaere, PhD , Ghent University Hospital, Ghent, Belgium

Hugo Robays, Pharm , Ghent University Hospital, Ghent, Belgium

Objectives 1/To compare the adaptation of antibiotic dosage through an electronic alert system and by the clinical pharmacist at an Intensive Care Unit (ICU). 2/ To evaluate the physician's prescription.

Methods A daily e-mail alert for dosage adaptation of antibiotics in renal dysfunction is generated based upon the patient's laboratory information for a 36-bed medical and surgical adult ICU. Algorithms for adaptation are developed in cooperation with the Department of Infectious Diseases (DID). Renal dysfunction is a 24 hour-creatinin clearance below 50 ml/min and/or dialysis. 1/ a junior clinical pharmacist daily screened admitted patients. Alert information is kept hidden from both clinical pharmacists and physicians during the study. 2/ a senior clinical pharmacist and an intensivist compared dosage adaptations with the prescription. Consensus was reached by discussion. **Results** Out of 171 patients, admitted during 44 consecutive days (February-April 2008), 70 patients experienced at least one day of renal dysfunction. Pharmacist and alert respectively screened 1409 and 628 antibiotic prescriptions. In 48.2% of the prescriptions, pharmacist and alert advised the same dosage (higher, lower); in 41.9% the alert did not find the prescription. In 9.9% pharmacist and alert gave opposite advice. Analysis of the timeline of dose adaptation revealed that on average the adaptation of the pharmacist was formulated on day 1, for the alert on day 2, for the physician on day 3. Analysis of the physician's prescription showed that in 77.3% of all prescriptions and in 58.2% of prescriptions in patients with renal problems, physicians followed the algorithms of DID. In short episodes of acute kidney injury (<2 days) the physician did not adapt the dose. **Conclusions** An electronic alert can help trace renal dysfunction; a human approach is still necessary for translating electronically generated information.

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