

## Hospital Pharmacy Pulse

### Recent Publications on Medications and Pharmacy

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*Hospital Pharmacy* presents this feature to keep pharmacists abreast of new publications in the medical/pharmacy literature. Articles of interest regarding a broad scope of topics are abstracted monthly. Suggestions or comments may be addressed to Jacyntha Sterling, Drug Information Specialist at Saint Francis Hospital, 6161 S Yale Ave, Tulsa, OK 74136 or e-mail: [jasterling@saintfrancis.com](mailto:jasterling@saintfrancis.com).

#### PHARMACY PRACTICE Overview and Application of Pharmacogenetics

An overview of pharmacogenetics was provided in a recent review article. Authors described basic concepts, pharmacogenetic study approaches, and pharmacogenetic information included on drug labels. A discussion on practice implications highlighted influencing factors. Test regulation, availability, cost, and reimbursement were described. A commentary on future directions called for additional research, guidelines, education, and a clinical practice model. The authors outlined the potential influence pharmacists may have on appropriate application of pharmacogenetic principles in clinical practice.

Shin J, Kayser SR, Langae TY. Pharmacogenetics: from discovery to patient care. *Am J Health Syst Pharm.* 2009; 66(7):625-637.

#### Pharmacy-Managed Anticoagulation Service

Researchers retrospectively compared 2 cohorts of patients taking warfarin therapy managed

either by a pharmacy service or a hospitalist service. The study took place at a 301-bed community hospital. Most evaluated parameters were comparable between study groups, including length of stay and number of patients reaching therapeutic international normalized ratio (INR). A statistically significant difference was noted in mean time to therapeutic INR range (hospitalist group,  $4.3 \pm 1.4$  days; pharmacy group,  $5.3 \pm 1.7$  days;  $P = 0.006$ ). Another significant difference was noted in total number of interacting antimicrobials (hospitalist group,  $n = 6$ ; pharmacy group,  $n = 0$ ;  $P = 0.03$ ). No thromboembolic events were noted for either group; 1 fatal bleeding event occurred in the hospitalist group. The authors described program training requirements and included a detailed description of the service protocol. Airee A, Guirguis AB, Mohammad RA. Clinical outcomes and pharmacists' acceptance of a community hospital's anticoagulation management service utilizing decentralized clinical staff pharmacists. *Ann Pharmacother.* 2009;43(4): 621-628.

#### LEGAL

##### Chemotherapy Dispensing Error

A 65-year-old man received chlorambucil for 11 months instead of a prescription for leucovorin. The patient had been prescribed leucovorin to mitigate the side effects of treatment for peripheral neuropathy. According to this report, the man developed depression and severe flu-like symptoms, and he retired sooner than anticipated. He became aware of the pharmacy's error when his prescription medication provider changed and leucovorin was correctly dispensed. The plaintiff accused the pharmacy of negligently dispensing the wrong drug and increasing his risk of developing leukemia. A \$350,000 settlement was reached with the pharmacy according to this report.

*Leukeran* dispensed instead of prescribed leucovorin—man claims increased risk of developing leukemia—\$350,000 North Carolina settlement. *Med Malpr Verd Settl Exp.* 2009;25(4):51.

##### Delayed Antibiotic Administration; Cardiac Arrest and Brain Death

A man with a recent history of leukemia treatment died 3 days after hospital discharge. According to this report, the man developed diarrhea and extreme abdominal pain that did not respond to over-the-counter treatment, and he sought treatment in the emergency department. The intravenous antibiotics that were ordered "STAT"

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were hung but not attached to the patient's infusion line and never infused. Instead, the patient underwent a diagnostic scan and was admitted to the hospital. The patient experienced cardiac arrest 2 hours after the antibiotics were ordered; life support was removed with his wife's consent after he was declared brain dead. The plaintiff alleged that prompt antibiotic administration would have been life saving because the patient had developed a colon infection secondary to chemotherapy-induced leukopenia. The defendant argued that antibiotics were not necessary while in the emergency room and that the patient's leukemia would have been fatal. A \$950,000 settlement was reportedly reached.

Failure to promptly administer antibiotics despite STAT order—man suffers cardiac arrest and brain death—death—\$950,000 Utah settlement. *Med Malpr Verd Settl Exp.* 2009;25(4):16.

### Failure to Evaluate and Medicate Schizophrenic Man; Fatal Shooting

A man with a history of paranoid schizophrenia since 1982 and a history of violence against his parents fatally shot a man in a department store parking lot. According to this report, the man who committed the shooting had been evaluated by a state mental health services contractor who had documented the man's auditory and visual hallucinations. Six months passed before an attempt was made to establish an appointment for continued care. A home visit was attempted after 8 months, and the shooting incident occurred shortly thereafter. The man's home contained multiple medication bottles, which were mostly full. At the time of his arrest, the man reportedly believed that he was King Edward reincarnated, that he could control weather with magi-

cal powers, and that the Chinese government was controlling his mind. The family of the victim sued the man and the state mental health services contractor. The plaintiff alleged that there was negligence in failing to coordinate monthly evaluations and medication compliance and that the contractor failed to adequately staff the service. The defendants argued that the man could choose to refuse services, that he had not directly threatened harm, that he relocated between appointments, and that there were no symptoms documented immediately before and following his arrest. According to this report, a \$1.2 million settlement was reached with the man who committed the shooting, who was found 10% at fault. The mental health services contractors were found 90% at fault. A \$26 million gross verdict was awarded, which included \$15 million in punitive damages.

Family of Arizona man killed by patient of state contractor of mental health services for indigent receive \$26 million gross verdict, including \$15 million in punitive damages—man with diagnosis of paranoid schizophrenia didn't receive evaluations and medications for eight months prior to obtaining gun and shooting anyone he saw in Wal-Mart parking lot—\$1.2 million settlement was reached with the shooter. *Med Malpr Verd Settl Exp.* 2009;25(4):3.

### JOURNAL SCAN Cardiovascular Care

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Dziewierz A, Giszterowicz D, Siudak Z, et al. Impact of admission glucose level and presence of diabetes mellitus on mortality in patients with non-ST-segment elevation acute coronary syndrome treated conservatively. *Am J Cardiol.* 2009;103(7):954-958.

Fellström BC, Jardine AG, Schmieder RE, et al; AURORA Study Group. Rosuvastatin and cardiovascular events in patients undergoing hemodialysis. *N Engl J Med.* 2009;360(14):1395-1407.

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Yanaga Y, Awai K, Nakaura T, et al. Effect of contrast injection protocols with dose adjusted to the estimated lean patient body weight on aortic enhancement at CT angiography. *AJR Am J Roentgenol.* 2009;192(4):1071-1078.

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Molassiotis A, Potrata B, Cheng KK. A systematic review of the effectiveness of Chinese herbal medication in symptom management and improvement of quality of life in adult cancer patients. *Complement Ther Med.* 2009;17(2):92-120.

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**Infectious Diseases**

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**Nephrology**

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**Pain Management**

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