Prevalence and risk factors for clinically significant drug interactions among patients treated with antiretroviral agents

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Objective: To identify the prevalence, type and risk factors for clinically significant drug-drug interactions (CSDI) in the prescription of HIV-infected patients.

Methods: In a retrospective study, outpatient medical records from HIV clinic at Bumrasnaradura Infectious Disease Institute. Three hundred randomly selected patients who were receiving antiretroviral therapy from 1 January to December 2011. CSDI, assigned a severity grade, and evaluated for management according to 2 source, the Micromedex® 2.0 database and The DHHS HIV treatment guideline 2012.

Results: Of the 300 patients, CSDI were found in 101 patients (33.7%). Drug-drug interactions were identified in antiretroviral regimen, 88% other regimen, 61% Protease inhibitors (PIs)-based, 34% efavirenz-based and 10% nevirapine-based regimens (P < 0.001). 179 CSDI were identified in 101 patients, the proportion of grade 2, 3, 4 CSDI were 51% (n=91), 37% (n=67), 12% (n=21), respectively. The most important grade 4 interactions were: PIs vs. simvastatin (n=12), simvastatin vs. gemfibrozil (n=8) and boosted-darunavir vs. salmeterol (n=1). The most frequent grade 3 interactions were: PIs vs. statin drugs (except simvastatin) (n=25), fenofibrate vs. statin drugs (n=13) and gemfibrozil vs. statin drugs (except simvastatin) (n=4). The important risk factors associated with CSDI were number of drugs per prescription, visit per year and last CD₄ count. The rate of CSDI for number of drugs in prescription > 5 vs. ≤ 5 were 44.2% vs. 25.7% (P=0.001); number visit per year compared among ≤ 5 vs. 6-10 vs. > 10 were 25.7% vs. 53.3% vs. 66.7% (P < 0.001), respectively; last CD₄ count ≤ 500 vs. > 500 were 40% vs.27% (P=0.02).

Conclusion: CSDI are highly prevalent among HIV-infected patients in outpatient clinic, especially use of PIs-based regimen. Risk factors associated with CSDI are number of visit per year, number of drugs per prescription and last CD₄ count.

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