Physical Medicine-2013
OMICS Group Conferences
Accelerating Scientific Discovery
International Conference and Exhibition on
Physical Medicine & Rehabilitation
August 19-21, 2013 Embassy Suites Las Vegas, USA

Drug-exercise interactions

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Abstract

Exercise is an important component in disease prevention, treatment and rehabilitation. Certain physiological changes caused by exercise may alter the absorption, distribution, metabolism and elimination (pharmacokinetic parameters) of some medications used to treat common medical conditions. Alternatively, certain medications can limit exercise capacity. In both cases, scientific literature exists to show that that an interaction exists between exercise and certain medications. Drug-exercise pharmacokinetic interactions alter the performance of medications especially under conditions where exercise is performed for a long period of time. Particular medications that may be effected are those with a narrow therapeutic dosing range, such as digoxin, theophylline, and warfarin. Other medications including insulin and those administered via transdermal patch drug delivery system may have an adverse effect during shorter bouts of exercise. Drug-exercise pharmacodynamic interactions can occur when taking certain anti-hypertensive medications, such as beta-blockers and some calcium channel blockers, causing hemodynamic changes as a result of a decreasing exercise heart rate and cardiac output. This presentation provides scientific information about drug-exercise interactions and several points of information that health care professionals can discuss with their patients. Health care providers and patients should be aware that exercise can adversely affect the way some medications are intended to work and that some medications can alter the ability to perform exercise.

Biography

Tom Lenz, PharmD is Associate Professor and Clinical Director of the Cardiovascular and Diabetes Risk Reduction Program at Creighton University in Omaha, Nebraska, USA. Dr. Lenz is a Fellow in the American College of Lifestyle Medicine, a member of the editorial board for the American Journal of Lifestyle Medicine and has published 4 books and over 75 journal articles in the area of lifestyle medicine, cardiovascular disease and pharmacy practice.

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