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**St. Luke's – Roosevelt Hospital's Leading Cardiologist Concludes the  
"Waterpill" is Inappropriate for First Line Therapy of Hypertension**  
*Dr. Franz Messerli's Study to Appear in the January 24<sup>th</sup> of JACC*

NEW YORK - January 24, 2011 – Hydrochlorothiazide (HCTZ), a diuretic or “waterpill” available for half a century, remains the most commonly prescribed drug for high blood pressure worldwide and in the U.S. alone. Over 134 million prescriptions of HCTZ were written in 2008; for comparison, the second most commonly prescribed drug was Atenolol with 44 million prescriptions. Now, a new study recently released by in *The Journal of American College of Cardiology* (JACC) says that HCTZ, when prescribed alone, is weaker than any other blood pressure drug and has not been shown to reduce heart attack, stroke or death.

Franz H. Messerli, MD, Director of the Hypertension Program at St. Luke's–Roosevelt Hospital center in New York served as the lead author of the study, entitled, “Antihypertensive Efficacy of Hydrochlorothiazide as Evaluated by Ambulatory Blood Pressure Monitoring.” In it, he concluded that HCTZ, when studied in a patient population of over 1,300 patients at a daily dose of 12.5 to 25 mg, proved to be an inferior drug, lowering blood pressure significantly less than all other drug classes measured head-to-head studies in ambulatory monitoring.

“Because of such a paltry blood pressure effect and lack of data on reducing heart attack, stroke or death at these doses,” Dr. Messerli said, “physicians should refrain from prescribing HCTZ as a solo, first-line antihypertensive therapy.”

The purpose of Dr. Messerli's study was, first, to evaluate the blood pressure lowering capabilities of HCTZ in the most thorough way, i.e. by ambulatory monitoring; and secondly, to scrutinize the literature for data showing a reduction in heart attacks, strokes or death with HCTZ treatment.

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More than a third of the HCTZ prescriptions (47.5 million) were written for HCTZ alone, and the remainder for HCTZ in combination with other pressure-lowering medications, mostly blockers of the renin angiotensin system. The dose of HCTZ prescribed was almost exclusively (more than 97%) 12.5 to 25 mg per day. Over the past 30 years, this pervasive prescription pattern of HCTZ has been extensively promoted by reports of the Joint National Committee for Prevention, Detection, Evaluation, and Treatment of High Blood Pressure that recommended “thiazides”, “thiazide-like drugs” or “thiazide-type diuretics” as first-line or preferred therapy for hypertension.

In fourteen studies with a HCTZ dose of 12.5 to 25 mg in 1,234 patients, the decrease in 24 hour ambulatory monitoring blood pressure with HCTZ dose 12.5 to 25 mg was a meager 6.5 / 4.5mm Hg. In head-to-head comparisons, this fall in blood pressure was significantly inferior to the 24-hour BP reduction with all other drug classes such as angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, beta-blockers, and calcium antagonists. Of note, HCTZ lowered blood pressure well during daytime when patients are seen in the physician’s office but had less effect during the night and early morning hours.

Thus, assessing the blood pressure lowering of HCTZ by office blood pressure measurements only proved to be deceptive and is prone to lull physicians and patients into a false sense of security. Most importantly, in its commonly used dose of 12.5 to 25 mg once a day, there are no studies or evidence that HCTZ reduces myocardial infarction, stroke, or death.